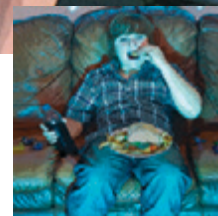
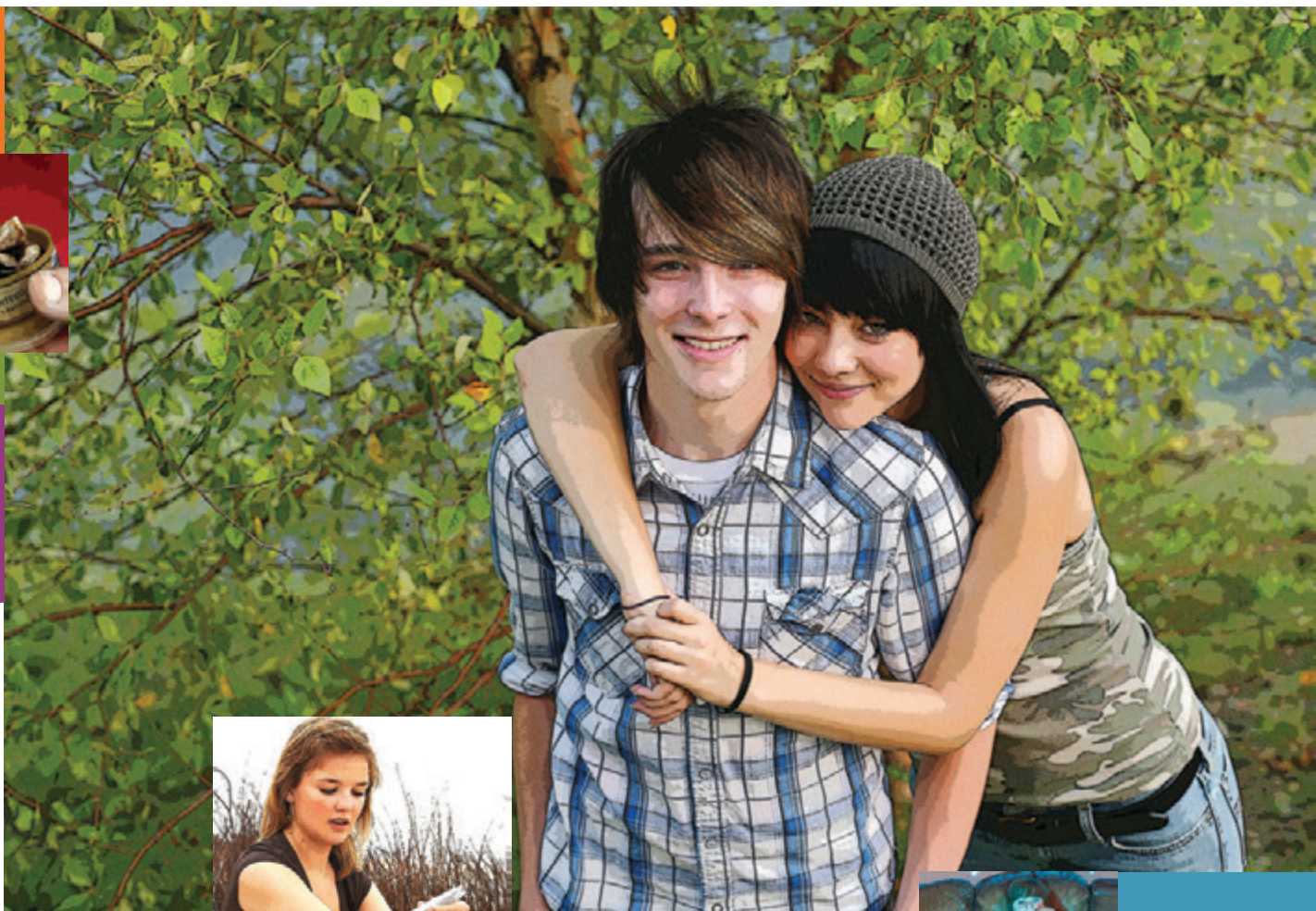


# *South Dakota Youth Risk Behavior Survey*

## *1991 – 2011 Trend Report*



# *South Dakota Youth Risk Behavior Survey*

*1991 – 2011 Trend Report*

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# Acknowledgements

*South Dakota is one of only two states that have been able to secure weighted data for every year the Youth Risk Behavior Survey (YRBS) has been conducted. This achievement could only have been accomplished with the continued commitment of our state's school administrators, school principals, teachers, parents, and students. Sincere appreciation is extended to those school districts that have participated in past and present surveys.*

*This trend report contains data from state and national Youth Risk Behavior Survey reports that were conducted during the period 1991-2011. This report would not be possible without the participation of countless school districts, several partnering agencies and the Centers for Disease Control and Prevention.*





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## **Description of the Youth Risk Behavior Survey**

The Youth Risk Behavior Survey (YRBS) is a questionnaire that assesses the six priority health-risk behaviors that result in the greatest amount of morbidity, mortality, and social problems among youth. The YRBS was developed cooperatively by the Centers for Disease Control and Prevention (CDC), and state and local departments of education.<sup>(5)</sup> The six priority health-risk behaviors assessed in the YRBS are behaviors that result in intentional and unintentional injuries; tobacco use; alcohol and other drug use; sexual behaviors that result in HIV infection, other sexually transmitted diseases (STDs), and unintended pregnancy; dietary behaviors; and physical activity.

These six priority health-risk behaviors were selected for inclusion in the survey because in the United States, 74% of all deaths among youth and young adults aged 10–24 years result from four causes: motor vehicle crashes (30%), other unintentional injuries (16%), homicide (16%), and suicide (12%).

<sup>(11)</sup> Substantial morbidity and social problems also result from the approximately 757,000 pregnancies among women aged 15–19 years,<sup>(105)</sup> the estimated 9.1 million cases of sexually transmitted diseases (STDs) among persons aged 15–24 years,<sup>(108)</sup> and the estimated 6,610 cases of HIV/AIDS among persons aged 15–24 years<sup>(10)</sup> that occur annually.

Among adults aged >25 years, 59% of all deaths in the United States result from cardiovascular diseases (35%) and cancer (24%).<sup>(11)</sup> These leading causes of morbidity and mortality among youth and adults in the United States are related to six categories of priority health risk behaviors: behaviors that contribute to unintentional injuries and violence; tobacco use; alcohol and other drug use; sexual behaviors that contribute to unintended pregnancy and STDs, including HIV infection; unhealthy dietary behaviors; and physical inactivity. These behaviors frequently are interrelated and often are established during childhood and adolescence and extend into adulthood.

## **Youth Risk Behavior Survey Trend Data**

This report presents the results of the South Dakota Youth Risk Behavior Survey (YRBS) and the National YRBS for the period of 1991 to 2011. The South Dakota YRBS was administered biennially during this period to a random sample of approximately 1,500 students in grades 9 through 12 attending regular public, private, and Bureau of Indian Education (BIE) schools in South Dakota. Ungraded and out-of-school programs were excluded. The National YRBS was administered biennially to a nationally representative sample of approximately 15,000 U.S. students in grades 9 through 12. Details of the National YRBS can be obtained at [www.cdc.gov/yrbbs](http://www.cdc.gov/yrbbs).

## **Explanation of Trend Results**

This trend report is organized according to the question order of the 2011 South Dakota Youth Risk Behavior Survey Report. To be included in this trend report a question must minimally have data for both 2009 and 2011. Therefore, questions that were added to the YRBS in 2011 do not appear in this trend report.

In addition to graphically representing the trend results of each question, this report includes the results of statistical tests for two types of trend changes – linear and quadratic.

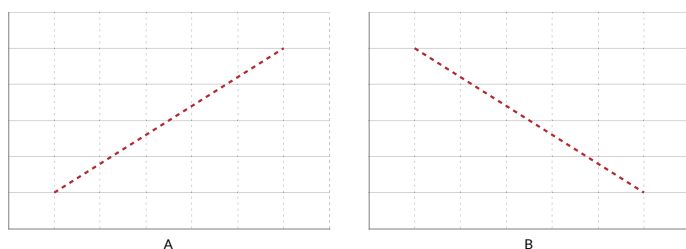
A statistically significant linear change indicates that the behavior either increased or decreased during the time period covered by the analysis, e.g., 1991 to 2011. A visual inspection of the trend line is required to determine whether the behavior increased or decreased over time. If the behavior increased over time, then the interpretation of the linear change is: Overall, there was an increase in the behavior from 1991 to 2011. If the behavior decreased over time, then the interpretation of the linear change is: Overall, there was a decrease in the behavior from 1991 to 2011.

A statistically significant quadratic change indicates that during the time period covered by the analysis, e.g., 1991 to 2011, the behavior changed in any one of several ways that doesn't resemble a straight line. A visual inspection of a quadratic change will reveal some combination of the behavior increasing and/or decreasing and/or staying the same over time – revealed as at least one bend in the trend line.

During the period of 1991 to 2011, a risk behavior could show any one of the four possible changes shown below: 1) a linear change only, 2) a quadratic change only, 3) both a linear change and a quadratic change, or 4) no statistically significant change.

### 1. Linear change = YES; Quadratic change = NO

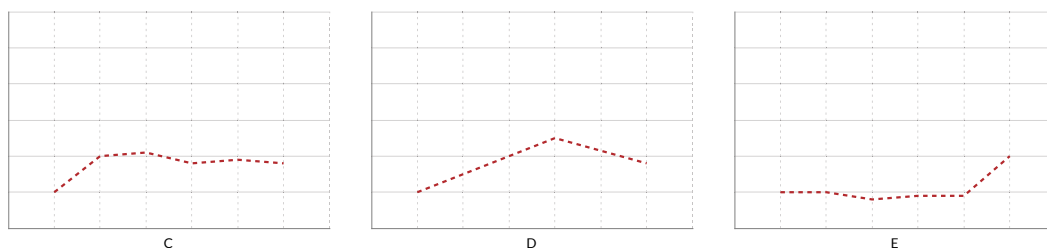
This means the behavior either increased (A) or decreased (B) significantly over time. If you graph the trend line it will be relatively straight.



An example of a linear change but no quadratic change is shown by Question 12 on page 7: The percentage of South Dakota high school students who carried a weapon such as a gun, knife, or club on school property on one or more of the past 30 days decreased from 10% in 1993 to 6% in 2011. This change is similar to that shown in Figure B above.

### 2. Linear change = NO; Quadratic change = YES

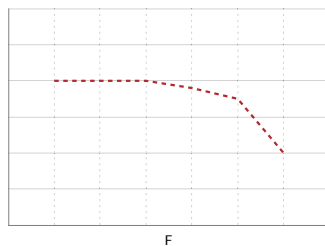
This means the behavior increased or decreased slightly over time, but not enough to be a significant linear change, and then leveled off (C); the behavior increased or decreased and then went in the opposite direction (D); or the behavior started out level and then increased or decreased over time, but not enough to be a significant linear change (E). If you graph the trend line, it will have a bend in it. You need at least three years of data to detect a quadratic change.



An example of a quadratic change but no linear change is shown by Question 55 on page 35: The percentage of South Dakota high school students who had used any form of cocaine including powder, crack, or freebase, one or more times during the past 30 days increased from 2% in 1991 to 4% in 1997, and then decreased to 3% in 2011. These changes are similar to those shown in Figure D above.

### 3. Linear change = YES; Quadratic change = YES

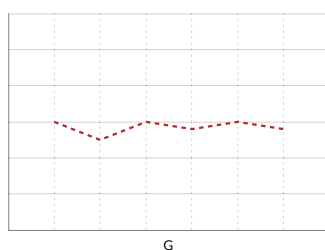
This means that while there was an overall significant increase or decrease in the behavior over time, the behavior has either leveled off or begun to move in the opposite direction (F). If you graph the trend line, it will have a bend in it.



An example of both a linear change and a quadratic change is shown by Question 10 on page 5: The percentage of South Dakota high school students who during the past 30 days rode one or more times in a car or other vehicle driven by someone who had been drinking alcohol decreased from 50% in 1991 to 23% in 2011. However, there was no statistically significant change from 24% in 2007 to 23% in 2011.

### 4. Linear change = NO; Quadratic change = NO

This means that there was no significant change in the behavior over time. If you graph the trend line it will be relatively flat (G).



An example of neither a quadratic change nor a linear change is shown by Question 13 on page 7: The percentage of South Dakota high school students who did not go to school on one or more of the past 30 days because they felt they would be unsafe at school or on their way to or from school showed no statistically significant change from 3% in 1993 to 4% in 2011.

**NOTE: SPECIAL CARE SHOULD BE USED IN INTERPRETING TREND RESULTS FOR BEHAVIORS THAT HAVE VERY LOW PREVALENCE. TREND ANALYSES CAN BE SENSITIVE TO THE SMALL NUMBER OF RESPONDENTS IN THE NUMERATOR OF VERY LOW PREVALENCE BEHAVIORS.**



## ***Margin of Error***

During each year that the YRBS was administered, the sample of students selected for the YRBS was only one of many possible random samples of students that could have been drawn from the population of 9th through 12th grade students. Each sample would have yielded slightly different results had it actually been selected. This variation in results is called sampling error and it can be estimated using the results that were obtained from the YRBS. In general, larger samples produce smaller sampling errors. The South Dakota YRBS sample sizes were designed to yield sampling errors that would produce a margin of error of approximately plus or minus 5% for each YRBS question.

Therefore, some trend results may appear to show year-to-year changes when they are actually random fluctuations resulting from sampling errors and are not statistically significant.

# *Executive Summary of the South Dakota Youth Risk Behavior Survey Trend Results*

**1991 – 2011 Trend Report**

The South Dakota Youth Risk Behavior Survey (YRBS) was administered biennially during the period of 1991 to 2011 to a random sample of approximately 1,500 students in grades 9 through 12 attending regular classrooms in public, private, and Bureau of Indian Education schools in South Dakota.

The YRBS assesses the six priority health-risk behaviors that result in the greatest amount of morbidity, mortality, and social problems among youth. The six priority health-risk behaviors assessed in the YRBS are behaviors that result in intentional and unintentional injuries and violence; tobacco use; alcohol and other drug use; sexual behaviors that result in HIV infection, other sexually transmitted diseases, and unintended pregnancy; dietary behaviors; and physical activity.

Although most of the YRBS questions were introduced in 1991, a few additional questions were added during subsequent years. Statistical trend analyses were conducted to determine whether each health-risk behavior increased, decreased, or remained unchanged over time. This Executive Summary presents the results of these trend analyses and the prevalence of each health-risk behavior for both 2011 and for the first year that it appeared in the YRBS – usually 1991.

## ***Explanation of the Trend Analyses Reported in this Executive Summary***

The complete results of the trend analyses are published in the *South Dakota Youth Risk Behavior Survey Trend Report 1991-2011*. This Executive Summary organizes the trend results into four categories: Changes Toward Less Risky Behavior, Changes Toward More Risky Behavior, No Statistically Significant Changes, and Mixed Changes involving two or more of the preceding three categories.

Highly complex statistical procedures were used to perform the trend analyses reported in the *South Dakota Youth Risk Behavior Survey Trend Report 1991-2011* and in this Executive Summary. These statistical analyses incorporated the results from every year that a question was included in the survey, along with information about the sampling procedures and response rates.

This Executive Summary presents the prevalence of each health-risk behavior for two points in time – 2011 and the first year that an item was included in the survey, usually 1991. Since the prevalence results for the intervening years are not reported in this Executive Summary, some of the trend results may seem confusing. For example, a very small change from 1991 to 2011 for one behavior may be reported as being a statistically significant increase or decrease but for another behavior a much larger difference may be reported as showing no change. In these cases an examination of the complete trend results for the behavior from 1991 to 2011 will often eliminate the confusion.

## **Behaviors that Result in Intentional and Unintentional Injuries and Violence**

*South Dakota youth injury and violence has been steadily and significantly declining. Note however, that South Dakota youth still tend to use seatbelts less often than the national average.*

### **Changes Toward Less Risky Behavior**

*The percentage of students who*

- carried a weapon such as a gun, knife, or club on school property on one or more of the past 30 days **decreased** from 10% in 1993 to 6% in 2011
- were in a physical fight one or more times during the past 12 months **decreased** from 40% in 1991 to 24% in 2011
- were injured in a physical fight and had to be treated by a doctor or nurse one or more times during the past 12 months **decreased** from 4% in 1991 to 2% in 2011
- were in a physical fight on school property one or more times during the past 12 months **decreased** from 14% in 1993 to 8% in 2011
- during their whole school life, had been touched, grabbed, or pinched in a sexual way by anyone when they didn't want them to **decreased** from 32% in 1995 to 21% in 2011
- ever seriously considered attempting suicide during the past 12 months **decreased** from 30% in 1991 to 18% in 2011
- made a plan about how they would attempt suicide during the past 12 months **decreased** from 18% in 1991 to 13% in 2011

### **Mixed Changes**

*The percentage of students who*

- never or rarely wore a seatbelt when riding in a car driven by someone else **decreased** from 54% in 1991 to 20% in 2011, but there was no change from 2003 to 2011
- never or rarely wore a seatbelt when driving a car **decreased** from 28% in 1999 to 19% in 2011, but there was no change from 2003 to 2011 (among students who drove a car)
- during the past 30 days rode one or more times in a car or other vehicle driven by someone who had been drinking alcohol **decreased** from 50% in 1991 to 23% in 2011, but there was no change from 2007 to 2011
- during the past 30 days drove a car or other vehicle one or more times when they had been drinking alcohol **decreased** from 28% in 1991 to 11% in 2011, but there was no change from 2007 to 2011
- actually attempted suicide one or more times during the past 12 months **increased** from 8% in 1991 to 13% in 2001, and then **decreased** to 8% in 2011

### **No Statistically Significant Changes**

*The percentage of students who*

- did not go to school on one or more of the past 30 days because they felt they would be unsafe at school or on their way to or from school showed no statistically significant change from 3% in 1993 to 4% in 2011
- have been threatened or injured with a weapon such as a gun, knife, or club on school property one or more times during the past 12 months showed no statistically significant change from 6% in 1993 to 6% in 2011
- had property, such as their car, clothing, or books, stolen or deliberately damaged on school property one or more times during the past 12 months showed no statistically significant change from 27% in 2003 to 23% in 2011

- during the past 12 months were ever hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend showed no statistically significant change from 12% in 1999 to 13% in 2011
- were ever physically forced to have sexual intercourse when they did not want to showed no statistically significant change from 8% in 2001 to 10% in 2011
- attempted suicide during the past 12 months which resulted in an injury, poisoning, or overdose that had to be treated by a doctor or nurse showed no statistically significant change from 3% in 2003 to 3% in 2011
- during the past 12 months ever felt threatened or were injured as a result of gang activity showed no statistically significant change from 8% in 2009 to 6% in 2011

### **Changes Toward More Risky Behavior**

There were no changes toward more risky behavior in this section.

## **Tobacco Use**

*While tobacco use among South Dakota youth has been in steady decline as has their exposure to second hand smoke, their use of chewing tobacco is still twice the national average and a growing number of them believe that smokeless tobacco is safer than cigarettes.*

### **Changes Toward Less Risky Behavior**

The percentage of students who

- ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days **decreased** from 25% in 2001 to 15% in 2011
- during the past 7 days were in the same room or car with someone who was smoking cigarettes **decreased** from 62% in 2005 to 49% in 2011

### **Mixed changes**

The percentage of students who

- ever tried cigarette smoking, even one or two puffs **increased** from 69% in 1991 to 75% in 1997, and then **decreased** to 48% in 2011
- smoked a whole cigarette for the first time prior to age 13 **increased** from 23% in 1991 to 27% in 1999, and then **decreased** to 12% in 2011
- smoked cigarettes on one or more of the past 30 days **increased** from 31% in 1991 to 44% in 1997, and then **decreased** to 23% in 2011
- smoked cigarettes on school property on one or more of the past 30 days **increased** from 15% in 1993 to 19% in 1997, and then **decreased** to 6% in 2011
- smoked cigarettes on 20 or more of the past 30 days **increased** from 16% in 1991 to 24% in 1997, and then **decreased** to 10% in 2011
- smoked 2 or more cigarettes per day on the days they smoked during the past 30 days **increased** from 12% in 1991 to 14% in 1993, and then **decreased** to 5% in 2011
- used chewing tobacco or snuff such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen, during the past 30 days **decreased** from 23% in 1995 to 15% in 2001, and then showed **no change** to 15% in 2011
- used chewing tobacco or snuff on school property on one or more of the past 30 days **decreased** from 13% in 1995 to 8% in 1999, and then showed **no change** to 8% in 2011

### **No Statistically Significant Changes**

The percentage of students who

- bought their own cigarettes in a store such as a convenience store, supermarket, discount store, or gas station showed no statistically significant change from 11% in 2001 to 9% in 2011 among those less than 18 years old who smoked cigarettes during the past 30 days
- smoked cigarettes during the past 30 days who ever tried to quit smoking cigarettes during the past 12 months showed no statistically significant change from 64% in 2001 to 58% in 2011
- smoked cigarettes during the past 30 days who want to stop smoking cigarettes showed no statistically significant change from 46% in 2005 to 53% in 2011
- during the past 12 months ever stopped smoking for one day or longer because they were trying to quit smoking showed no statistically significant change from 19% in 2007 to 16% in 2011
- think they definitely will be smoking cigarettes 5 years from now showed no statistically significant change from 5% in 2005 to 3% in 2011
- used chewing tobacco or snuff such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen, during their lives showed no statistically significant change from 25% in 2005 to 28% in 2011
- believe that smokeless tobacco is safer than cigarettes showed no statistically significant change from 15% in 2005 to 22% in 2011
- during this school year were taught in any of their classes about the dangers of tobacco use showed no statistically significant change from 46% in 2005 to 43% in 2011

### **Changes Toward More Risky Behavior**

There were no changes toward more risky behavior in this section.

## **Alcohol and Other Drug Use**

*South Dakota youth's use of inhaled glue vapors, paints, and aerosols, to get high has dropped dramatically, as has their use of methamphetamines. And while marijuana use has increased, it is consistently below the national average.*

### **Changes Toward Less Risky Behavior**

The percentage of students who

- had sniffed glue, breathed the contents of aerosol spray cans, or inhaled any sprays or paints to get high during their life **decreased** from 21% in 1995 to 12% in 2011
- used methamphetamines one or more times during their life **decreased** from 10% in 1999 to 3% in 2011

### **Mixed Changes**

The percentage of students who

- had at least one drink of alcohol on one or more days during their life **increased** from 84% in 1991 to 86% in 1999, and then **decreased** to 69% in 2011
- had their first drink of alcohol other than a few sips prior to age 13 showed **no change** from 34% in 1991 to 36% in 1995, and then **decreased** to 19% in 2011
- had at least one drink of alcohol on one or more of the past 30 days showed **no change** from 58% in 1991 to 59% in 1999, and then **decreased** to 39% in 2011

- had 5 or more drinks of alcohol in a row, that is, within a couple of hours, on one or more of the past 30 days **increased** from 41% in 1991 to 46% in 1999, and then **decreased** to 26% in 2011
- had someone offer, sell, or give them an illegal drug on school property during the past 12 months **increased** from 18% in 1993 to 30% in 1997, and then **decreased** to 16% in 2011
- ever used a needle to inject any illegal drug into their body one or more times during their life **increased** from 2% in 1995 to 7% in 2001, and then **decreased** to 2% in 2011
- had taken steroid pills or shots without a doctor's prescription, one or more times during their life showed **no change** from 4% in 1991 to 5% in 2001, and then **decreased** to 2% in 2011
- used marijuana one or more times during their life **increased** from 21% in 1991 to 38% in 1999, and then **decreased** to 33% in 2011
- used marijuana one or more times during the past 30 days **increased** from 10% in 1991 to 20% in 1997, and then showed **no change** to 18% in 2011
- used any form of cocaine including powder, crack, or freebase, one or more times during the past 30 days **increased** from 2% in 1991 to 4% in 1997, and then **decreased** to 3% in 2011

### **No Statistically Significant Changes**

*The percentage of students who*

- tried marijuana for the first time prior to age 13 showed no statistically significant change from 7% in 1991 to 8% in 2011
- had sniffed glue, breathed the contents of aerosol spray cans, or inhaled any sprays or paints to get high during the past 30 days showed no statistically significant change from 4% in 2001 to 5% in 2011
- had taken over-the-counter drugs to get high during the past 30 days showed no statistically significant change from 4% in 2009 to 8% in 2011

### **Changes Toward More Risky Behavior**

There were no changes toward more risky behavior in this section.

## **Sexual Risk Behaviors that Result in HIV Infection, Other Sexually Transmitted Diseases, and Unintended Pregnancies**

*In general South Dakota youth's sexual risk behaviors are on par with the national average.*

*Roughly ½ of SD youth have had sexual intercourse. Around 35% are currently sexually active, and HIV/AIDS education in schools has declined.*

### **Changes Toward Less Risky Behavior**

*The percentage of students who*

- had sexual intercourse for the first time prior to age 13 **decreased** from 7% in 1991 to 4% in 2011
- used or whose partner used a condom during last sexual intercourse **increased** from 48% in 1991 to 61% in 2011 among those who had sexual intercourse during the past 3 months
- drank alcohol or used drugs before last sexual intercourse **decreased** from 37% in 1991 to 24% in 2011 among those who had sexual intercourse during the past 3 months



### **Mixed Changes**

The percentage of students who

- ever had sexual intercourse **decreased** from 48% in 1991 to 40% in 2001, and then **increased** to 47% in 2011
- had sexual intercourse with four or more people during their life **decreased** from 16% in 1991 to 11% in 2001, and then showed **no change** to 15% in 2011
- had sexual intercourse with one or more people during the past 3 months **decreased** from 34% in 1991 to 29% in 1995, and then **increased** to 35% in 2011
- had been taught about AIDS/HIV infection in school **increased** from 88% in 1991 to 95% in 1995, and then **decreased** to 80% in 2011

### **No Statistically Significant Changes**

The percentage of students who

- used or whose partner used birth control pills to prevent pregnancy during last sexual intercourse showed no statistically significant change from 20% in 1991 to 24% in 2011 among those who had sexual intercourse during the past 3 months
- had ever talked about AIDS or HIV infection with their parents or other adults in their family showed no statistically significant change from 35% in 2007 to 33% in 2011
- have been tested for any sexually transmitted disease (STD) showed no statistically significant change from 14% in 2009 to 13% in 2011

### **Changes Toward More Risky Behavior**

There were no changes toward more risky behavior in this section.

## **Dietary Behaviors**

*South Dakota youth are below the national average when it comes to getting five or more servings of fruits and vegetables. In addition, SD youth consistently describe themselves as being “slightly or very overweight” in greater proportions than do their national counterparts.*

### **Changes Toward Less Risky Behavior**

The percentage of students who

- took diet pills, powders, or liquids without a doctor’s advice to lose weight or to keep from gaining weight during the past 30 days **decreased** from 7% in 1999 to 5% in 2011

### **Mixed Changes**

The percentage of students who

- are overweight **increased** from 11% in 1999 to 14% 2003, and then showed **no change** to 14% in 2011
- went without eating for 24 hours or more to lose weight or to keep from gaining weight during the past 30 days showed **no change** from 13% in 1999 to 13% in 2003, and then **decreased** to 8% in 2011

### **No Statistically Significant Changes**

The percentage of students who

- are obese showed no statistically significant change from 8% in 1999 to 10% in 2011
- are trying to lose weight showed no statistically significant change from 46% in 1991 to 44% in 2011

- ate breakfast on five or more of the past seven days showed no statistically significant change from 51% in 2007 to 53% in 2011
- drank a can, bottle, or glass of soda or pop one or more times per day during the past seven days showed no statistically significant change from 28% in 2007 to 28% in 2011
- never or rarely went hungry during the past 30 days because there was not enough food in the house showed no statistically significant change from 88% in 2009 to 89% in 2011

### **Changes Toward More Risky Behavior**

*The percentage of students who*

- ate five or more servings of fruits and vegetables per day during the past 7 days decreased from 19% in 1999 to 15% in 2011

## **Physical Activity**

*While South Dakota youth describe themselves as being about as physically active as their national counterparts, they receive far less physical education in an average school week. In addition, their time spent on computers engaging in non-school related activities has increased significantly.*

### **Changes Toward Less Risky Behavior**

There were no changes toward less risky behavior in this section.

### **Mixed Changes**

*The percentage of students who*

- were physically active for a total of at least 60 minutes per day, during 5 or more of the past 7 days **increased** from 32% in 2005 to 47% in 2009, and then showed **no change** to 49% in 2011
- exercised or played sports more than 20 minutes during an average physical education class **decreased** from 84% in 1991 to 77% in 1995, and then **increased** to 88% in 2011 among those students enrolled in physical education class

### **No Statistically Significant Changes**

*The percentage of students who*

- during an average school day watched TV for 3 or more hours per day showed no statistically significant change from 25% in 2001 to 24% in 2011
- went to physical education class one or more days in an average school week showed no statistically significant change from 24% in 1991 to 33% in 2011

### **Changes Toward More Risky Behavior**

*The percentage of students who*

- played video games or used a computer for something that was not school work for 3 or more hours on an average school day increased from 17% in 2007 to 23% in 2011

## **Other Health Related Topics**

### **Changes Toward Less Risky Behavior**

There were no changes toward less risky behavior in this section.

### **Mixed Changes**

There were no mixed changes in this section.

### **No Statistically Significant Changes**

*The percentage of students who*

- saw a dentist during the past 12 months for a check-up, exam, teeth cleaning, or other dental work showed no statistically significant change from 75% in 2003 to 74% in 2011
- during the past 12 months used an indoor tanning device such as a sunlamp, sunbed, or tanning booth showed no statistically significant change from 28% in 2009 to 22% in 2011
- never or rarely wore sunscreen with an SPF of 15 or higher when they stayed outside for more than one hour on a sunny day showed no statistically significant change from 69% in 2007 to 68% in 2011

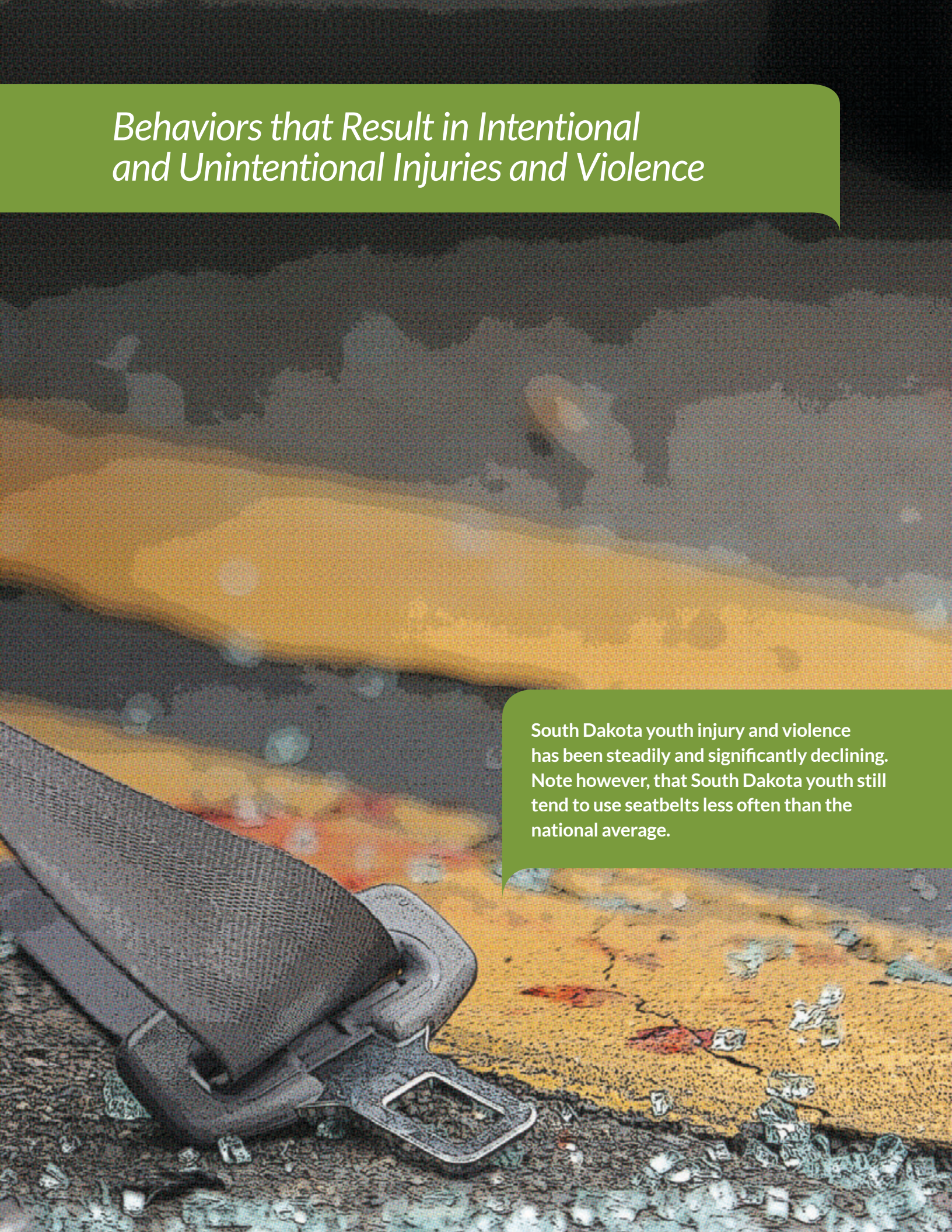
### **Changes Toward More Risky Behavior**

There were no changes toward more risky behavior in this section.



# *Behaviors that Result in Intentional and Unintentional Injuries and Violence*

South Dakota youth injury and violence has been steadily and significantly declining. Note however, that South Dakota youth still tend to use seatbelts less often than the national average.





# Behaviors that Result in Intentional and Unintentional Injuries and Violence

## Questions:

8. How often do you wear a seatbelt when riding in a car driven by someone else?
9. How often do you wear a seatbelt when driving a car?

## Rationale:

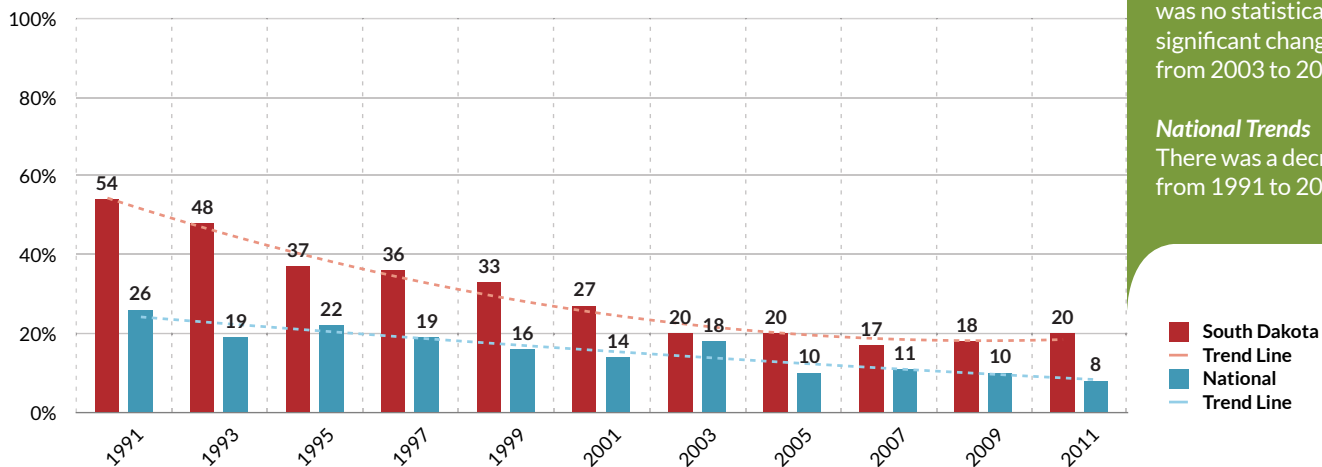
This question measures the frequency with which seat belts are worn when riding in a car driven by someone else, and when driving a car. Motor-vehicle related injuries kill more young adults ages 5-19 years than any other single cause in the United States.<sup>(107)</sup> Safety belts, when used appropriately, reduce the risk of fatal injury to front-seat passenger car occupants by 45% and the risk of moderate-to-critical injury by 50%.<sup>(66)</sup> In 2009, 10% of high school students nationwide had rarely or never worn a seat belt when riding in a car driven by someone else.<sup>(15)</sup>

## Results:

The results for Questions 8 and 9 are summarized on page 3.

### Question 8

Percentage of students who never or rarely wore a seatbelt when riding in a car driven by someone else



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Yes

#### QUADRATIC CHANGE

Yes  
No

#### South Dakota Trends

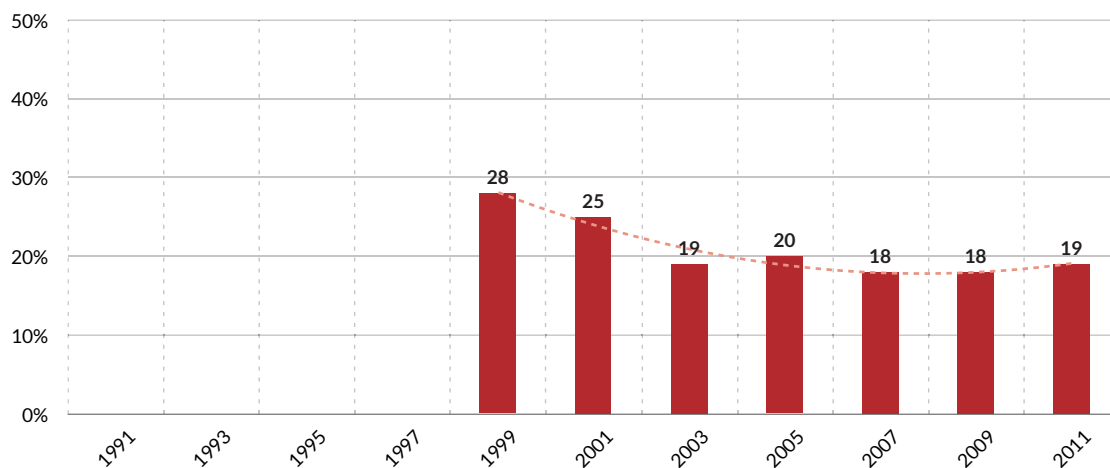
Overall, there was a decrease from 1991 to 2011. However, there was no statistically significant change from 2003 to 2011.

#### National Trends

There was a decrease from 1991 to 2011.

### Question 9

Of students who drove a car, the percentage who never or rarely wore a seatbelt



#### TREND ANALYSIS

South Dakota

#### LINEAR CHANGE

Yes

#### QUADRATIC CHANGE

Yes

#### South Dakota Trends

Overall, there was a decrease from 1999 to 2011. However, there was no statistically significant change from 2003 to 2011.

#### National Trends

This question was not included in the National YRBS.



# Behaviors that Result in Intentional and Unintentional Injuries and Violence

## Questions:

10. During the past 30 days, how many times did you ride in a car or other vehicle driven by someone who had been drinking alcohol?
11. During the past 30 days, how many times did you drive a car or other vehicle when you had been drinking alcohol?

## Rationale:

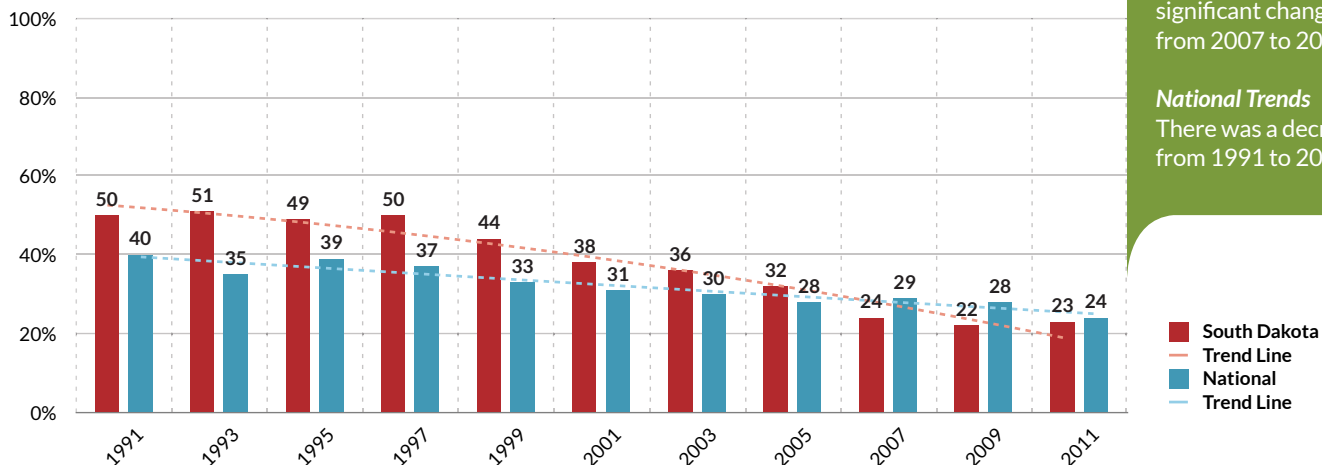
These questions measure the frequency with which high school students drove a motor vehicle while under the influence of alcohol or rode as a passenger in a motor vehicle operated by someone who was under the influence of alcohol. In 2008, 22% of 15- to 20-year-old drivers who were killed in motor vehicle crashes and 4% of those injured in crashes had been drinking alcohol.<sup>(67)</sup> In 2008, 31% of drivers ages 15- to 20-years old who were killed in crashes had a blood alcohol concentration (BAC) of .01 grams per deciliter (g/dL) or higher; 25% had a BAC of .08 or higher at the time of the crash.<sup>(67)</sup> In 2009, 10% of high school students nationwide had driven a car or other vehicle one or more times when they had been drinking alcohol and 28% of high school students nationwide had ridden in a car or other vehicle driven by someone who had been drinking alcohol one or more times during the 30 days before the survey.<sup>(15)</sup>

## Results:

The results for Questions 10 and 11 are summarized on page 5.

### Question 10

Percentage of respondents who during the past 30 days rode one or more times in a car or other vehicle driven by someone who had been drinking alcohol



#### South Dakota Trends

There was a decrease from 1991 to 2011. However, there was no statistically significant change from 2007 to 2011.

#### National Trends

There was a decrease from 1991 to 2011.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

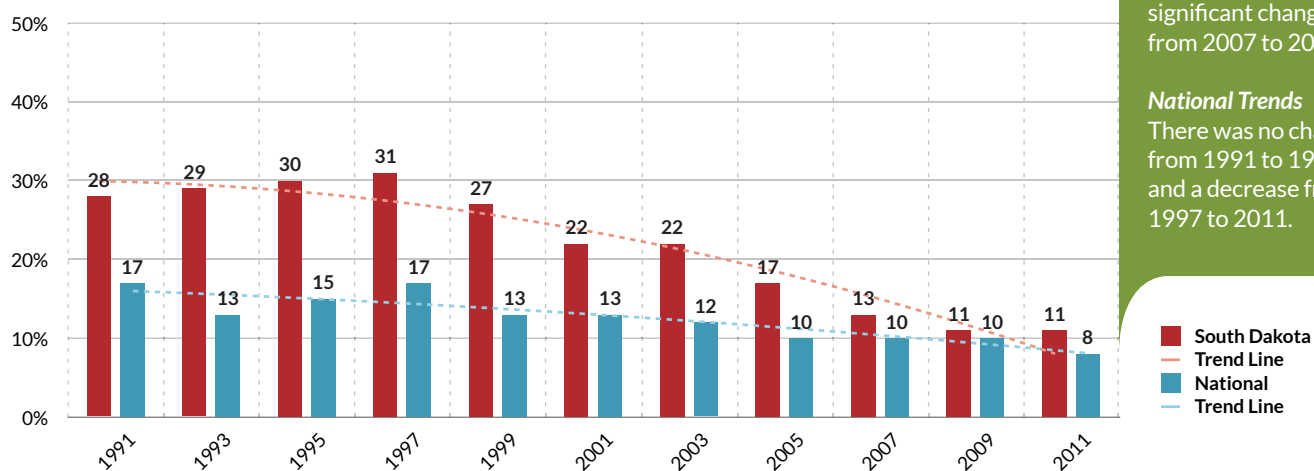
Yes  
Yes

#### QUADRATIC CHANGE

Yes  
No

### Question 11

Percentage of respondents who during the past 30 days drove a car or other vehicle one or more times when they had been drinking alcohol



#### South Dakota Trends

There was a decrease from 1991 to 2011. However, there was no statistically significant change from 2007 to 2011.

#### National Trends

There was no change from 1991 to 1997, and a decrease from 1997 to 2011.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

# Behaviors that Result in Intentional and Unintentional Injuries and Violence

## Questions:

12. During the past 30 days, on how many days did you carry a weapon such as a gun, knife, or club on school property?
13. During the past 30 days, on how many days did you not go to school because you felt you would be unsafe at school or on your way to or from school?
14. During the past 12 months, how many times has someone threatened or injured you with a weapon such as a gun, knife, or club on school property?
15. During the past 12 months, how many times has someone stolen or deliberately damaged your property such as your car, clothing, or books on school property?

## Rationale:

These questions measure violence-related behaviors and school-related violent behaviors. Homicide is the second leading cause of death among all youth ages 15-19 years (9.6 per 100,000) and is the leading cause of death among black youth ages 15-19 years (33.8 per 100,000).<sup>(107)</sup> Approximately 84% of homicide victims in the United States in 2004 were killed with a weapon, such as a gun, knife, or club.<sup>(21)</sup> In 2006, 85% of homicide victims 15-19 years old were killed with firearms.<sup>(107)</sup> Firearms intensify violence and increase the likelihood of fatality in a conflict.<sup>(18)</sup> Of all violent deaths that occurred on school property between 1994 and 2006, 65% involved firearms.<sup>(12)</sup> Nearly 100% of school districts have a policy prohibiting weapon possession or use by high school students on school property.<sup>(45)</sup> Among high school students nationwide in 2009, 17% had carried a weapon, 6% had carried a gun, and 6% had carried a weapon on school property on at least 1 day during the 30 days before the survey.<sup>(15)</sup> Among high school students nationwide in 2009, 5% had not gone to school on at least 1 day during the 30 days before the survey because they felt they would be unsafe at school or on their way to or from school and 8% had been threatened or injured with a weapon on school property 1 or more times during the 12 months before the survey.<sup>(15)</sup>

## Results:

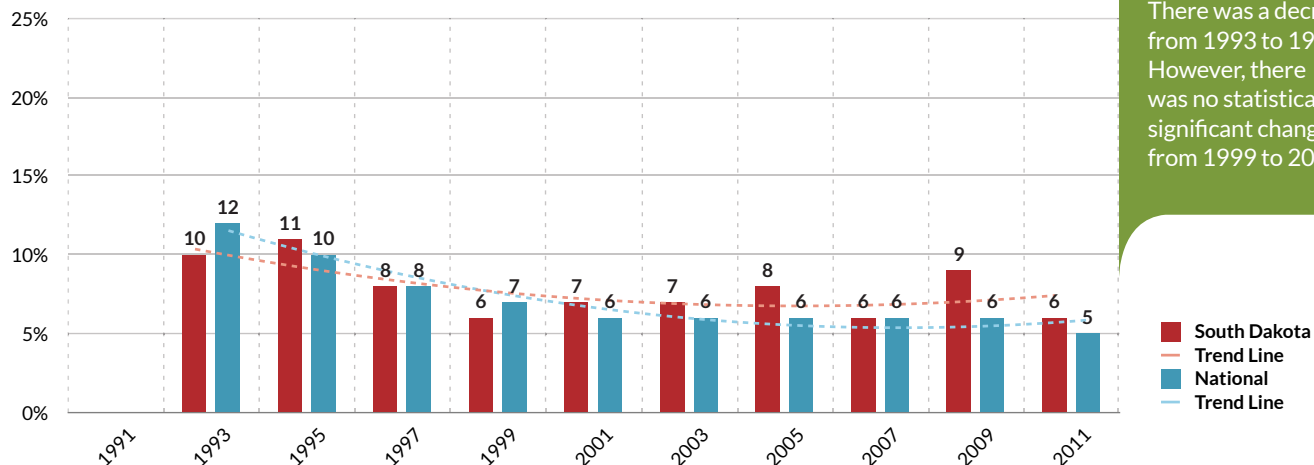
The results for Questions 12 to 15 are summarized on pages 7 and 8.

### Question 12

Percentage of respondents who carried a weapon such as a gun, knife, or club on school property on one or more of the past 30 days

**South Dakota Trends**  
There was a decrease from 1993 to 2011.

**National Trends**  
There was a decrease from 1993 to 1999. However, there was no statistically significant change from 1999 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

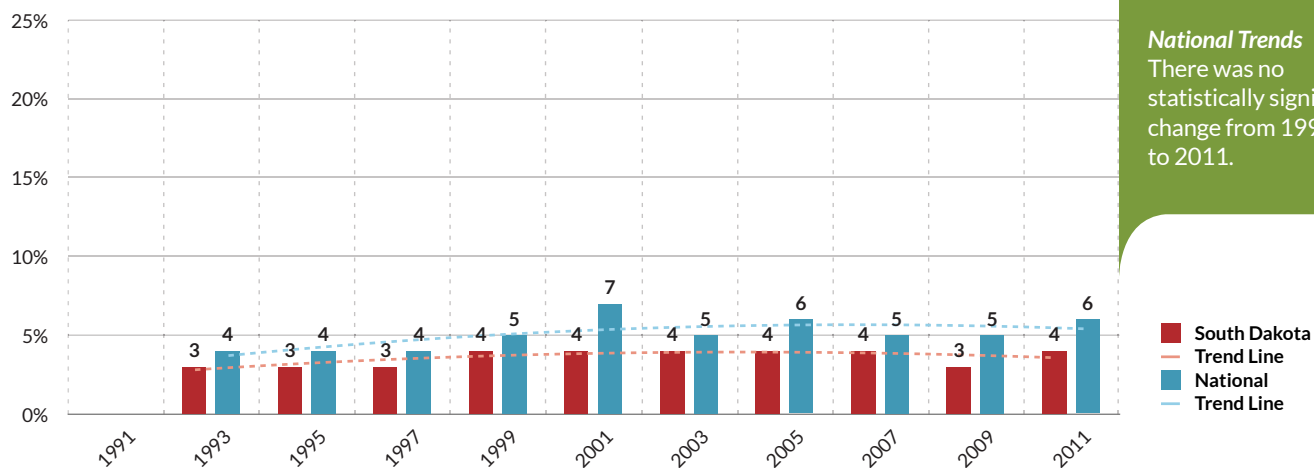
No  
Yes

### Question 13

Percentage of respondents who did not go to school on one or more of the past 30 days because they felt they would be unsafe at school or on their way to or from school

**South Dakota Trends**  
There was no statistically significant change from 1993 to 2011.

**National Trends**  
There was no statistically significant change from 1993 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
No

#### QUADRATIC CHANGE

No  
No

### Question 14

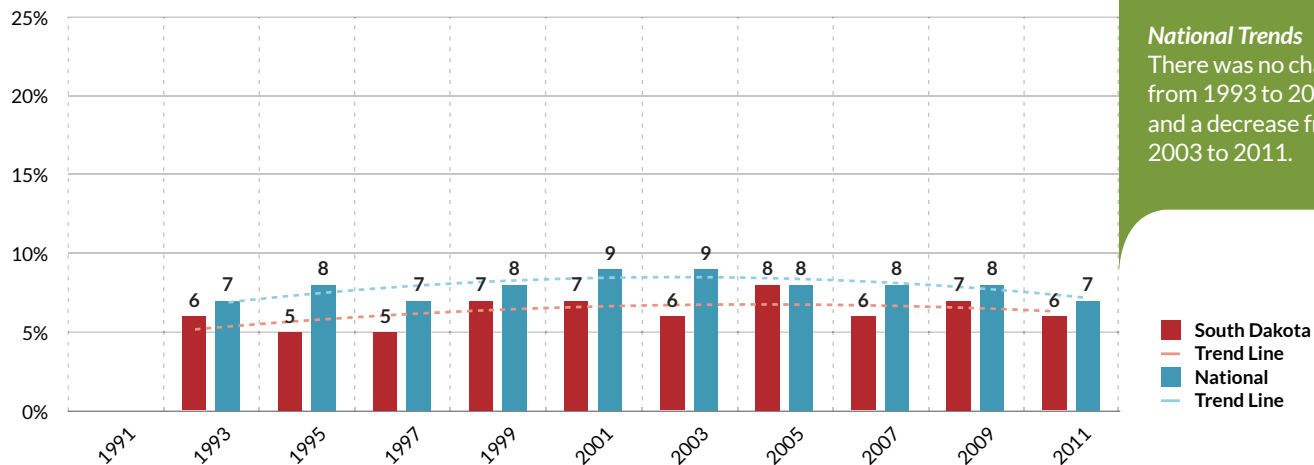
Percentage of respondents who have been threatened or injured with a weapon such as a gun, knife, or club on school property one or more times during the past 12 months

#### South Dakota Trends

There was no statistically significant change from 1993 to 2011.

#### National Trends

There was no change from 1993 to 2003, and a decrease from 2003 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
No

#### QUADRATIC CHANGE

No  
Yes

### Question 15

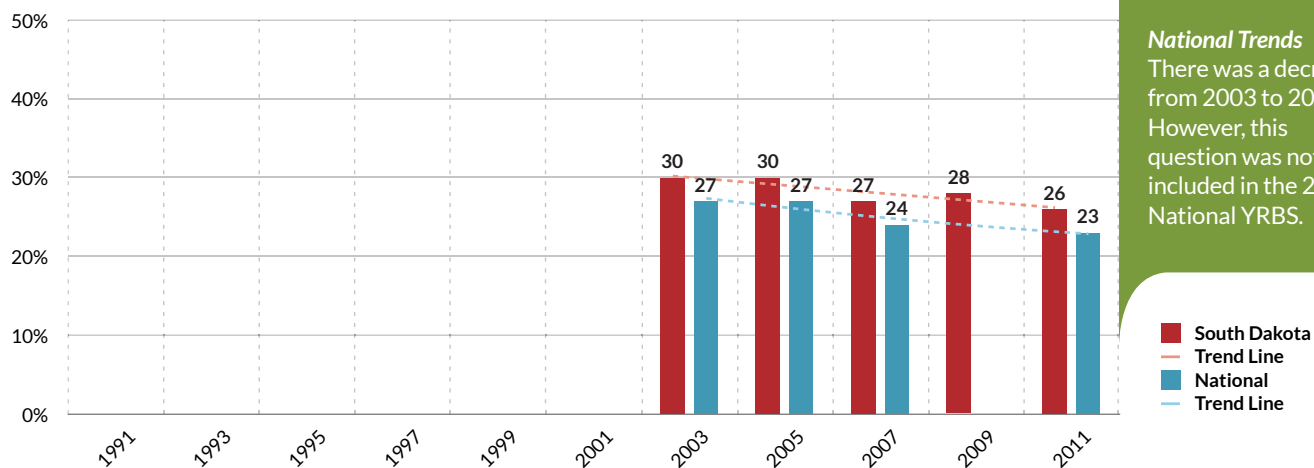
Percentage of respondents who had property, such as their car, clothing, or books, stolen or deliberately damaged on school property one or more times during the past 12 months

#### South Dakota Trends

There was no statistically significant change from 2003 to 2011.

#### National Trends

There was a decrease from 2003 to 2011. However, this question was not included in the 2009 National YRBS.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
Yes

#### QUADRATIC CHANGE

No  
No

# Behaviors that Result in Intentional and Unintentional Injuries and Violence

## Questions:

16. During the past 12 months, how many times were you in a physical fight?
17. During the past 12 months, how many times were you in a physical fight in which you were injured and had to be treated by a doctor or nurse?
18. During the past 12 months, how many times were you in a physical fight on school property?
19. During the past 12 months, did your boyfriend or girlfriend ever hit, slap, or physically hurt you on purpose?
20. Have you ever been physically forced to have sexual intercourse when you did not want to?
21. During the past 12 months, how many times have you felt threatened or been injured as a result of gang activity?
22. During your whole school life, has anyone (this includes students, teachers, other school employees, and anyone else) ever touched, grabbed or pinched you in a sexual way when you did not want them to?

## Rationale:

These questions measure the frequency and severity of physical fights, school-related fights, and abusive and bullying behavior. Physical fighting is a marker for other problem behaviors<sup>(84)</sup> and is associated with serious injury-related health outcomes.<sup>(3,76)</sup> Among high school students nationwide in 2009, 31% had been in a physical fight and 11% had been in a physical fight on school property one or more times during the 12 months before the survey.<sup>(15)</sup>

Intimate partner abuse victimization is associated with participation in other high risk behaviors,<sup>(78)</sup> including suicide ideation and attempts, as well as post-traumatic stress disorder and major depressive episodes.<sup>(16,111)</sup> In 2009, 10% of high school students nationwide had been hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the 12 months before the survey.<sup>(15)</sup> Forced sexual intercourse is associated with negative psychosocial and mental health consequences.<sup>(1,42)</sup> In 2009, 7% of high school students nationwide had ever been physically forced to have sexual intercourse when they did not want to.<sup>(15)</sup>

Bullying victimization is associated with depression,<sup>(103)</sup> suicidal ideation,<sup>(103)</sup> increased odds of repeated common health problems,<sup>(77)</sup> school absenteeism,<sup>(33)</sup> psychological distress,<sup>(77)</sup> and feeling unsafe at school.<sup>(33)</sup> Among high school students nationwide in 2009, 20% had been bullied on school property during the 12 months before the survey.<sup>(15)</sup> Electronic bullying victimization has been associated with discipline problems in school, skipping school, weapon carrying<sup>(113)</sup> and social anxiety.<sup>(46)</sup>

## Results:

The results for Questions 16 to 22 are summarized on pages 10 to 13.

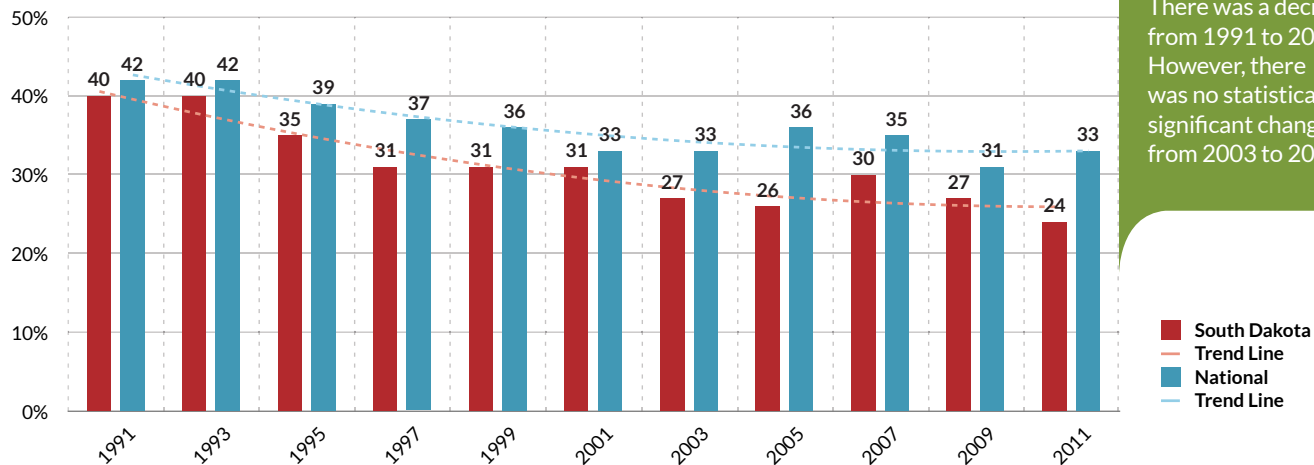


### Question 16

Percentage of respondents who were in a physical fight one or more times during the past 12 months

**South Dakota Trends**  
There was a decrease from 1991 to 2011.

**National Trends**  
There was a decrease from 1991 to 2003. However, there was no statistically significant change from 2003 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

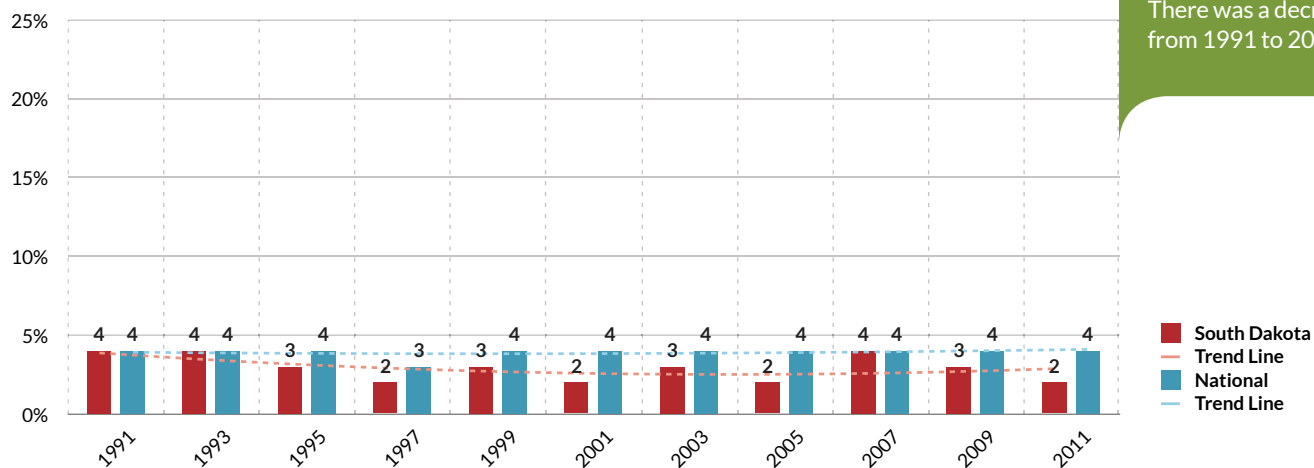
No  
Yes

### Question 17

Percentage of respondents who were injured in a physical fight and had to be treated by a doctor or nurse one or more times during the past 12 months

**South Dakota Trends**  
There was a decrease from 1991 to 2011.

**National Trends**  
There was a decrease from 1991 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Yes

#### QUADRATIC CHANGE

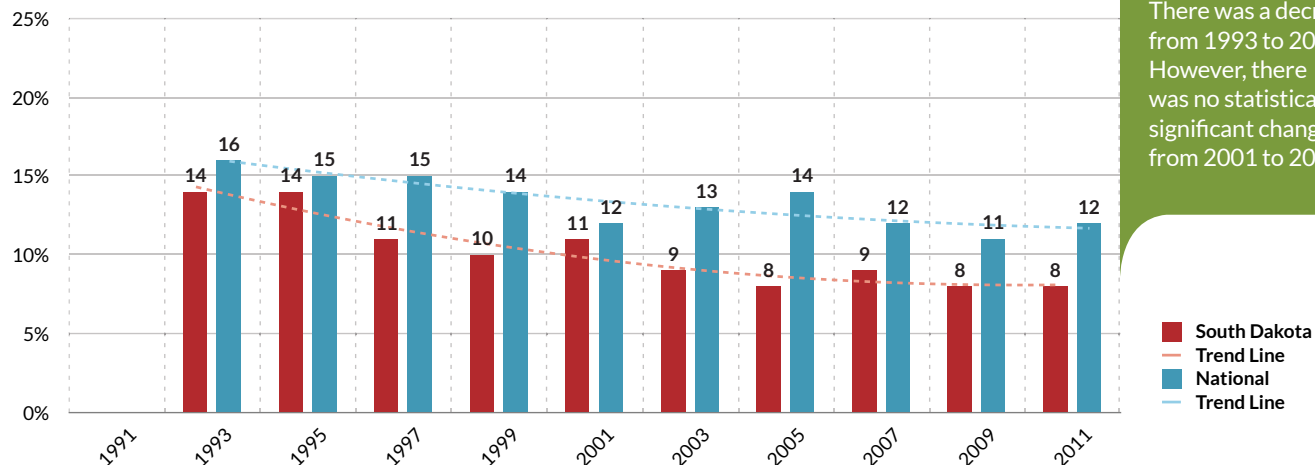
No  
No

### Question 18

Percentage of respondents who were in a physical fight on school property one or more times during the past 12 months

**South Dakota Trends**  
There was a decrease from 1993 to 2011.

**National Trends**  
There was a decrease from 1993 to 2001. However, there was no statistically significant change from 2001 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

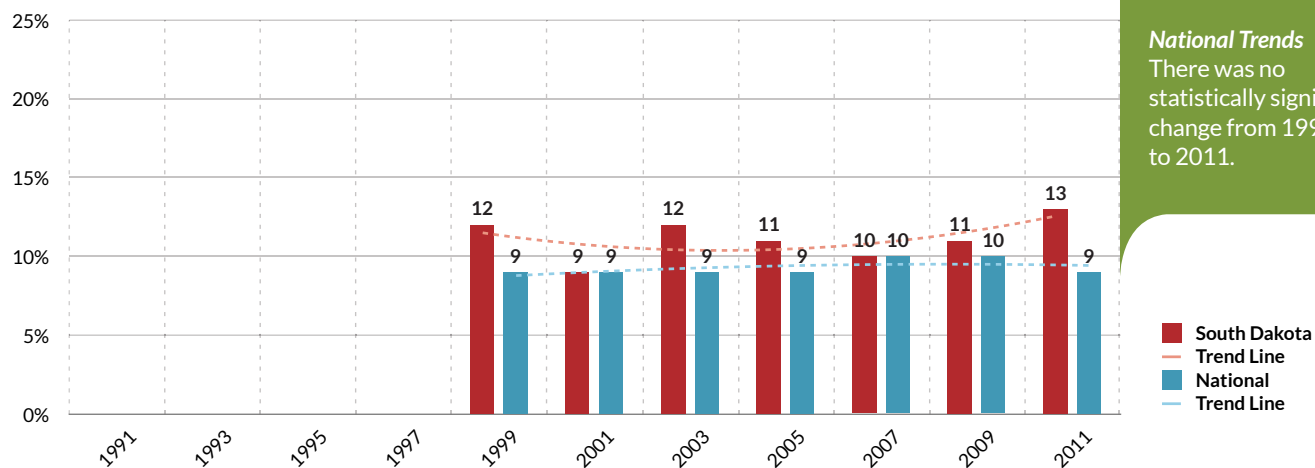
No  
Yes

### Question 19

Percentage of respondents who during the past 12 months were ever hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend

**South Dakota Trends**  
There was no statistically significant change from 1999 to 2011.

**National Trends**  
There was no statistically significant change from 1999 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
No

#### QUADRATIC CHANGE

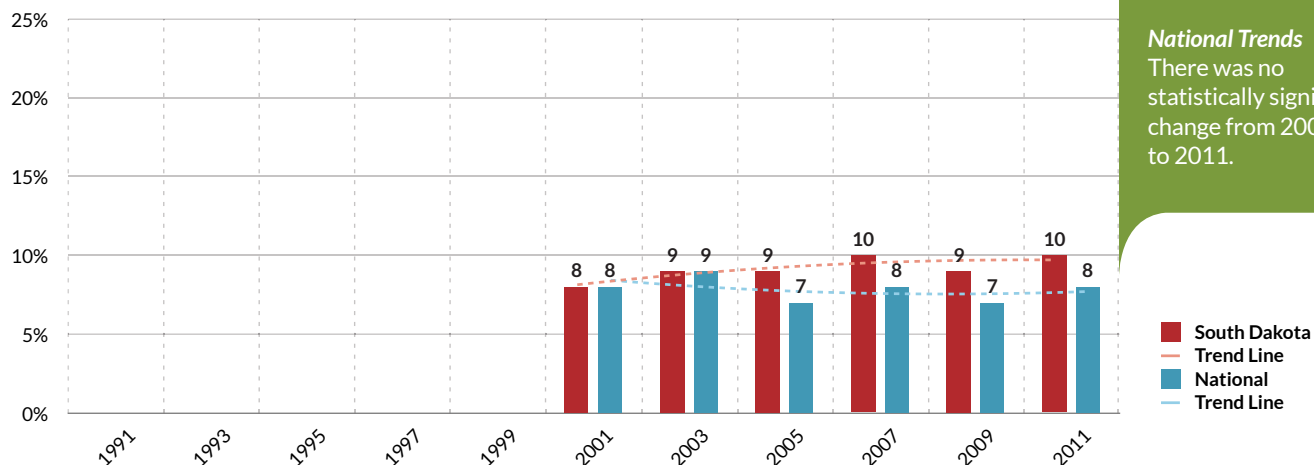
No  
No

### Question 20

Percentage of respondents who were ever physically forced to have sexual intercourse when they did not want to

**South Dakota Trends**  
There was no statistically significant change from 2001 to 2011.

**National Trends**  
There was no statistically significant change from 2001 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
No

#### QUADRATIC CHANGE

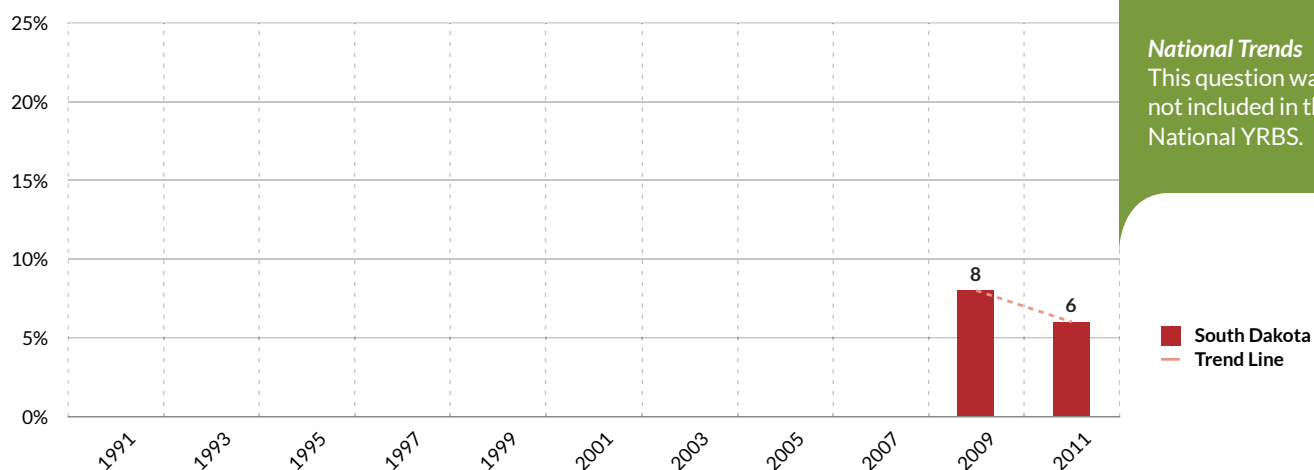
No  
No

### Question 21

Percentage of respondents who during the past 12 months ever felt threatened or were injured as a result of gang activity

**South Dakota Trends**  
There was no statistically significant change from 1999 to 2011.

**National Trends**  
This question was not included in the National YRBS.



#### TREND ANALYSIS

South Dakota

#### LINEAR CHANGE

Yes

#### QUADRATIC CHANGE

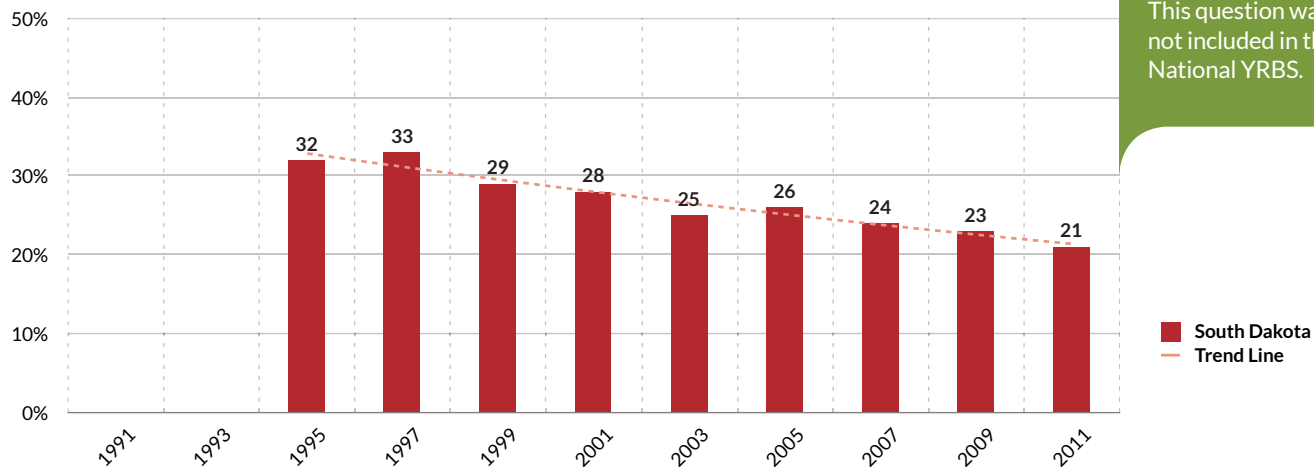
Not Applicable

**Question 22**

Percentage of respondents who, during their whole school life, had been touched, grabbed, or pinched in a sexual way by anyone when they didn't want them to

**South Dakota Trends**  
There was a decrease from 1995 to 2011.

**National Trends**  
This question was not included in the National YRBS.



**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
Yes

**QUADRATIC CHANGE**  
No

# Behaviors that Result in Intentional and Unintentional Injuries and Violence

## Questions:

- 25. During the past 12 months, did you ever seriously consider attempting suicide?
- 26. During the past 12 months, did you make a plan about how you would attempt suicide?
- 27. During the past 12 months, how many times did you actually attempt suicide?
- 28. If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?

## Rationale:

These questions measure suicide ideation, attempted suicide, and the seriousness of those attempts. Suicide is the third leading cause of death among youth ages 15-19 years.<sup>(107)</sup> The suicide rate for persons ages 15-19 was 7.3 per 100,000 in 2006 down from 8.2 per 100,000 in 2003.<sup>(107)</sup> A prior suicide attempt is one of the most significant risk factors for a fatal adolescent suicide attempt.<sup>(4,6)</sup> Among high school students nationwide in 2009, 14% had seriously considered attempting suicide, 11% had made a plan about how they would attempt suicide, and 6% had attempted suicide one or more times during the 12 months before the survey.<sup>(15)</sup>

## Results:

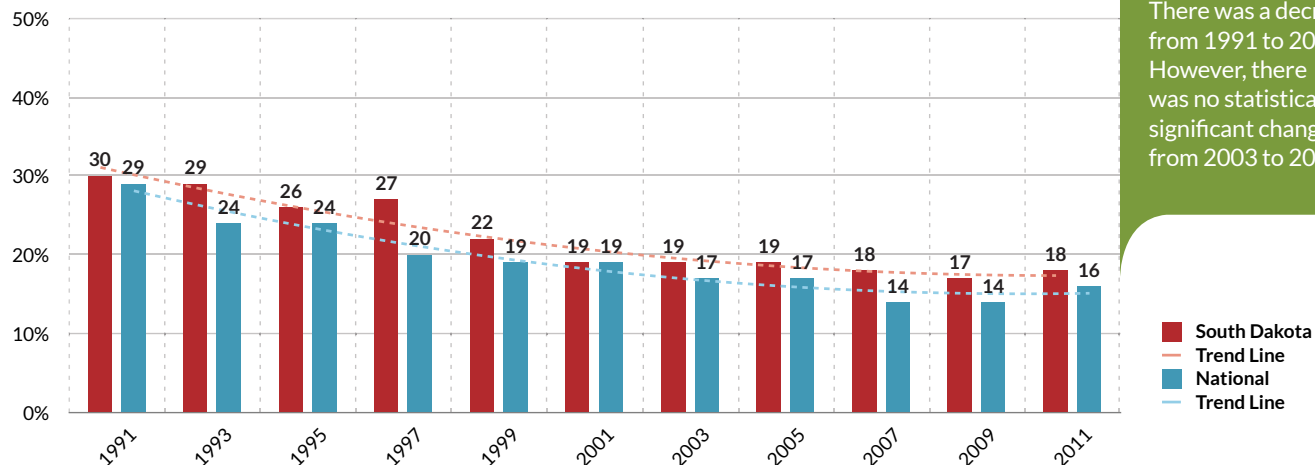
The results for Questions 25 to 28 are summarized on pages 15 and 16.

### Question 25

Percentage of respondents who ever seriously considered attempting suicide during the past 12 months

**South Dakota Trends**  
There was a decrease from 1991 to 2011.

**National Trends**  
There was a decrease from 1991 to 2003. However, there was no statistically significant change from 2003 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

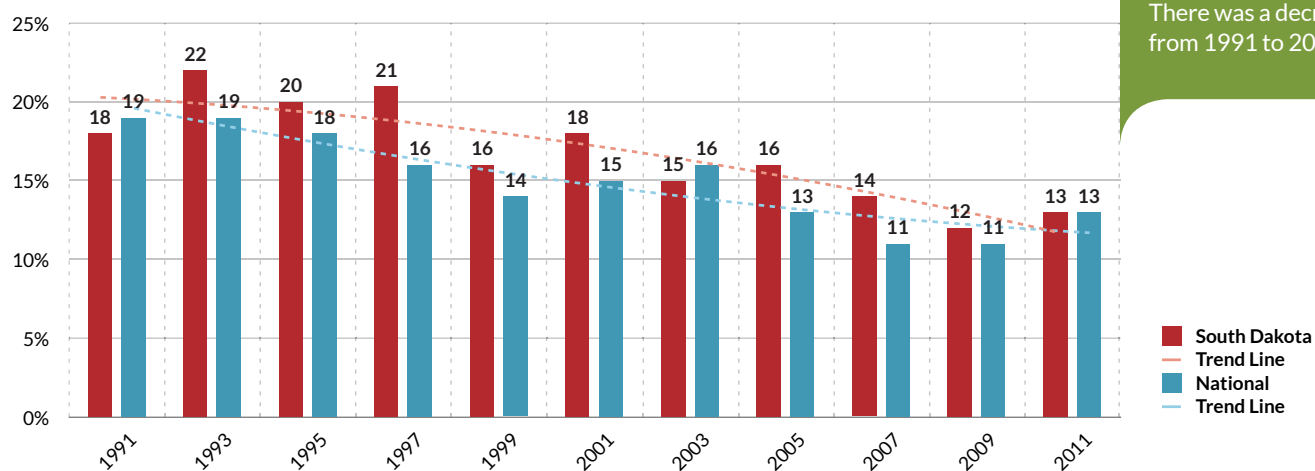
No  
Yes

### Question 26

Percentage of respondents who made a plan about how they would attempt suicide during the past 12 months

**South Dakota Trends**  
There was a decrease from 1991 to 2011.

**National Trends**  
There was a decrease from 1991 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Yes

#### QUADRATIC CHANGE

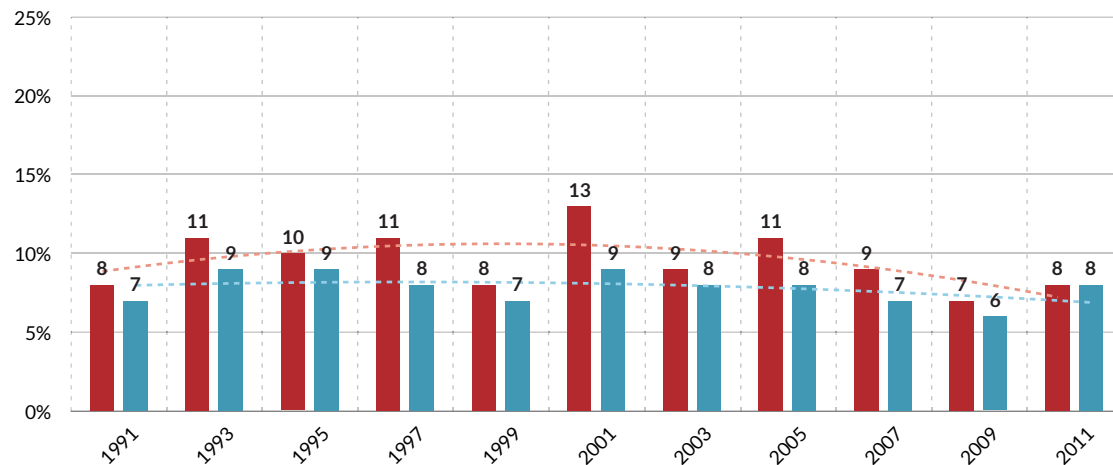
No  
No

### Question 27

Percentage of respondents who actually attempted suicide one or more times during the past 12 months

**South Dakota Trends**  
Overall there was a decrease from 1991 to 2011. However, there was an increase from 1991 to 2001, and a decrease from 2001 to 2011.

**National Trends**  
There was no change from 1991 to 2001, and a decrease from 2001 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

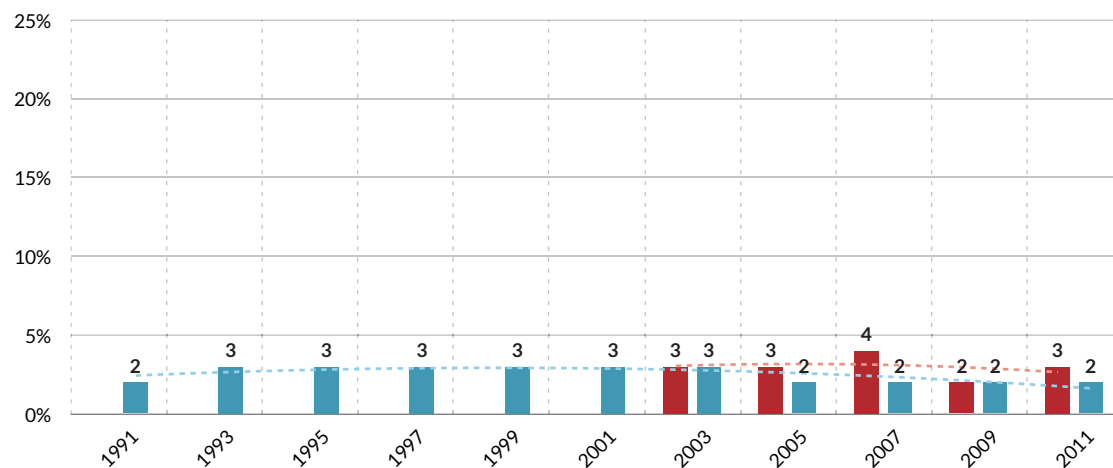
Yes  
Yes

### Question 28

Percentage of respondents whose attempted suicide during the past 12 months resulted in an injury, poisoning, or overdose that had to be treated by a doctor or nurse

**South Dakota Trends**  
There was no statistically significant change from 2003 to 2011.

**National Trends**  
There was an increase from 1991 to 1995, and a decrease from 1995 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
No

#### QUADRATIC CHANGE

No  
Yes



## Tobacco Use



While tobacco use among South Dakota youth has been in steady decline as has their exposure to second hand smoke, their use of chewing tobacco is still twice the national average and a growing number of them believe that smokeless tobacco is safer than cigarettes.



# Tobacco Use

## Questions:

29. Have you ever tried cigarette smoking, even one or two puffs?
30. How old were you when you smoked a whole cigarette for the first time?
31. During the past 30 days, on how many days did you smoke cigarettes?
32. During the past 30 days, on the days you smoked, how many cigarettes did you smoke per day?
33. During the past 30 days, how did you usually get your own cigarettes?
34. During the past 30 days, on how many days did you smoke cigarettes on school property?
35. Have you ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days?
36. Do you want to stop smoking cigarettes?
37. During the past 12 months, did you ever try to quit smoking cigarettes?
38. During the past 12 months, how many times did you stop smoking for one day or longer because you were trying to quit smoking?
39. Do you think you will be smoking cigarettes 5 years from now?

## Rationale:

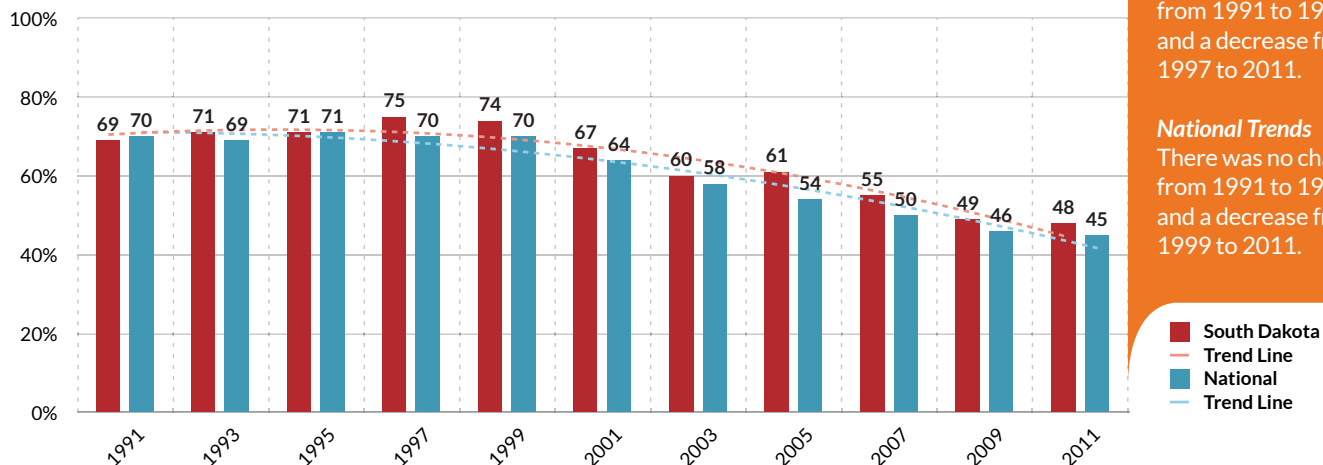
These questions measure ever and current smoking patterns, age of initiation, access to cigarettes, smoking on school property, and attempts to quit smoking. Cigarette smoking is the leading cause of preventable death in the United States<sup>(100)</sup> and accounts for approximately 440,000 deaths each year.<sup>(8)</sup> Cigarette smoking increases risk of heart disease; chronic obstructive pulmonary disease; acute respiratory illness; stroke; and cancers of the lung, larynx, oral cavity, pharynx, pancreas, and cervix.<sup>(100)</sup> In addition, as compared to nonsmokers, cigarette smokers are more likely to drink alcohol, use marijuana and cocaine, engage in risky sexual behaviors, engage in physical fighting, carry a weapon, and attempt suicide.<sup>(7,25,92,99)</sup> If current patterns of smoking behavior persist, an estimated 6.4 million U.S. persons who were under the age of 18 in 2000 could die prematurely from smoking-related illnesses.<sup>(38)</sup> In 2006, approximately 64% of schools had adopted policies that 1) prohibited cigarette smoking and smokeless tobacco use among students, faculty and staff, and school visitors in school buildings; outside on school grounds; on school buses or other vehicles used to transport students; and at off-campus, school-sponsored events; and 2) prohibited cigar or pipe smoking by students, faculty and staff, and school visitors.<sup>(48)</sup> Among high school students nationwide in 2009, 46% had ever tried cigarette smoking, 19% had smoked cigarettes on at least 1 day during the 30 days before the survey, and 5% had smoked cigarettes on school property on at least 1 day during the 30 days before the survey.<sup>(15)</sup>

## Results:

The results for Questions 29 to 39 are summarized on pages 19 to 24.

### Question 29

Percentage of respondents who ever tried cigarette smoking, even one or two puffs



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

#### South Dakota Trends

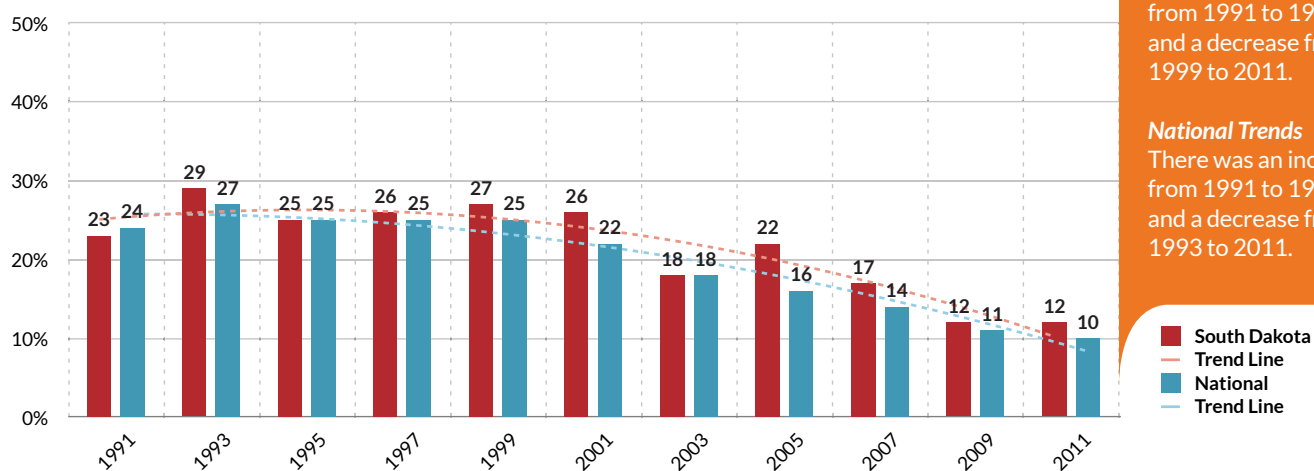
Overall there was a decrease from 1991 to 2011. However, there was an increase from 1991 to 1997, and a decrease from 1997 to 2011.

#### National Trends

There was no change from 1991 to 1999, and a decrease from 1999 to 2011.

### Question 30

Percentage of respondents who smoked a whole cigarette for the first time prior to age 13



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

#### South Dakota Trends

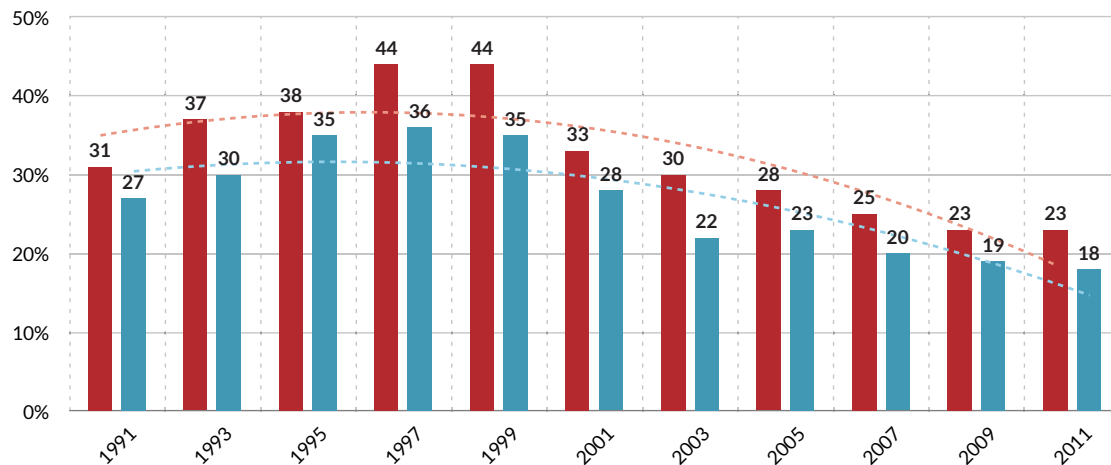
Overall there was a decrease from 1991 to 2011. However, there was an increase from 1991 to 1999, and a decrease from 1999 to 2011.

#### National Trends

There was an increase from 1991 to 1993, and a decrease from 1993 to 2011.

### Question 31A

Percentage of respondents who smoked cigarettes on one or more of the past 30 days



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

#### South Dakota Trends

Overall there was a decrease from 1991 to 2011. However, there was an increase from 1991 to 1997, and a decrease from 1997 to 2011.

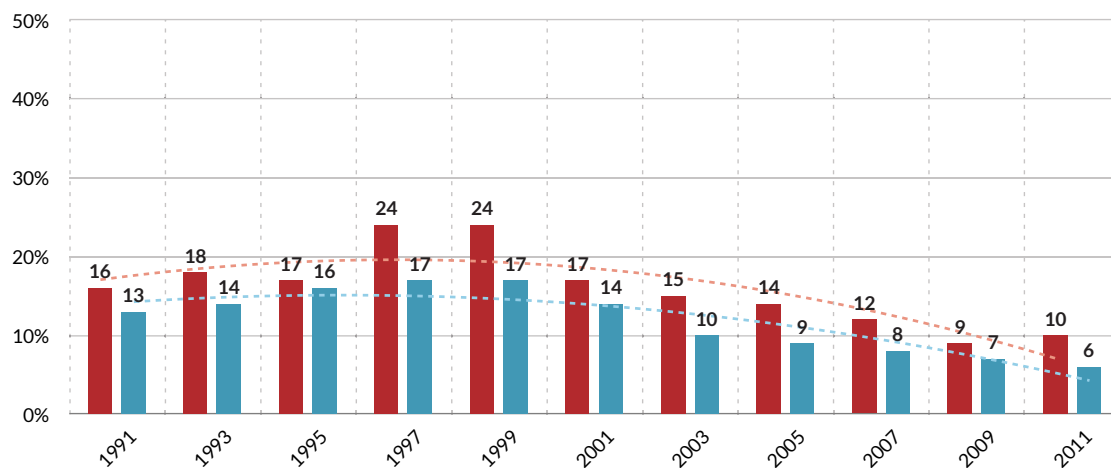
#### National Trends

There was an increase from 1991 to 1997, and a decrease from 1997 to 2011.

■ South Dakota  
— Trend Line  
■ National  
— Trend Line

### Question 31B

Percentage of respondents who smoked cigarettes on 20 or more of the past 30 days



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

#### South Dakota Trends

Overall there was a decrease from 1991 to 2011. However, there was an increase from 1991 to 1997, and a decrease from 1997 to 2011.

#### National Trends

There was an increase from 1991 to 1997, and a decrease from 1997 to 2011.

■ South Dakota  
— Trend Line  
■ National  
— Trend Line

### Question 32

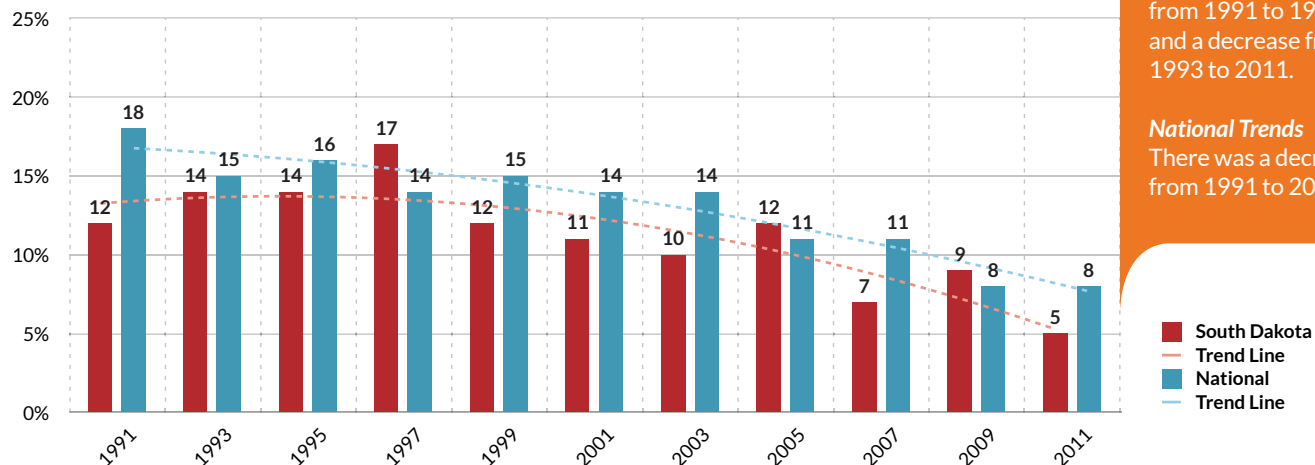
Percentage of respondents who smoked 10 or more cigarettes per day on the days they smoked

#### South Dakota Trends

Overall there was a decrease from 1991 to 2011. However, there was an increase from 1991 to 1993, and a decrease from 1993 to 2011.

#### National Trends

There was a decrease from 1991 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Yes

#### QUADRATIC CHANGE

Yes  
No

### Question 33

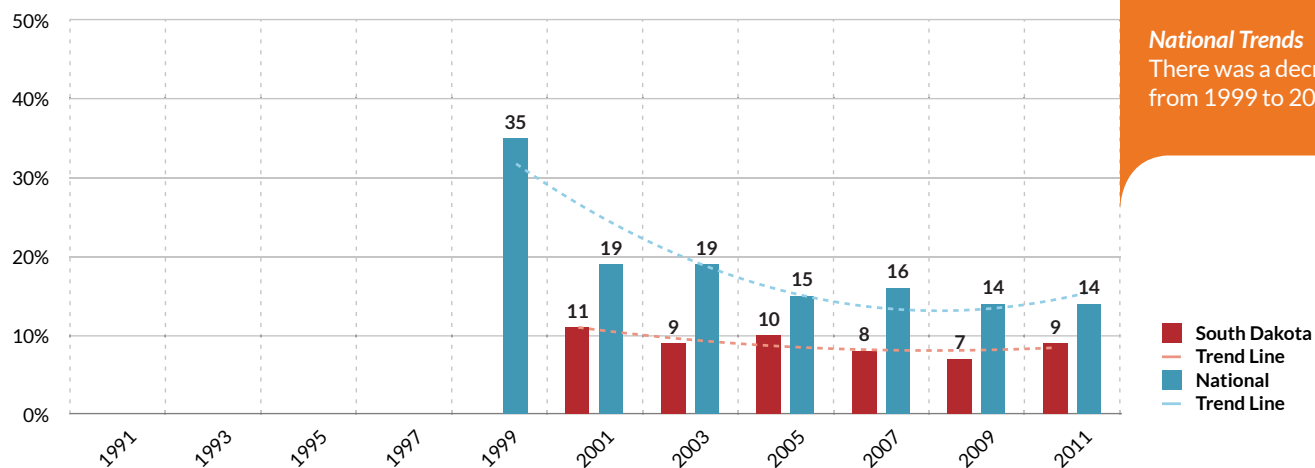
Of respondents less than 18 years old age who smoked cigarettes during the past 30 days, the percentage who bought their own cigarettes in a store such as a convenience store, supermarket, discount store, or gas station

#### South Dakota Trends

There was no statistically significant change from 2001 to 2011.

#### National Trends

There was a decrease from 1999 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

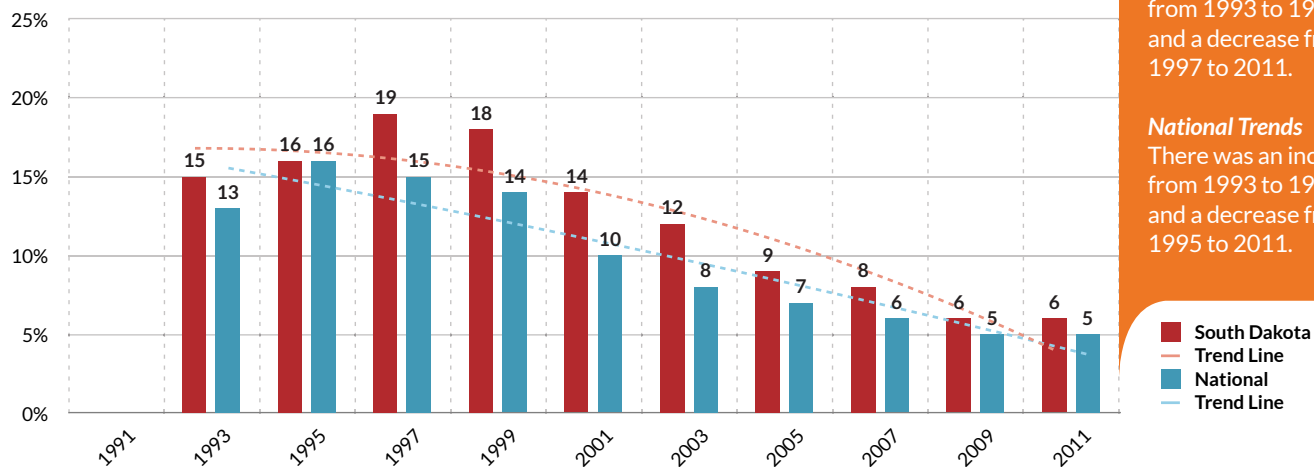
No  
Yes

#### QUADRATIC CHANGE

No  
No

### Question 34

Percentage of respondents who smoked cigarettes on school property on one or more of the past 30 days



#### South Dakota Trends

Overall there was a decrease from 1993 to 2011. However, there was an increase from 1993 to 1997, and a decrease from 1997 to 2011.

#### National Trends

There was an increase from 1993 to 1995, and a decrease from 1995 to 2011.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

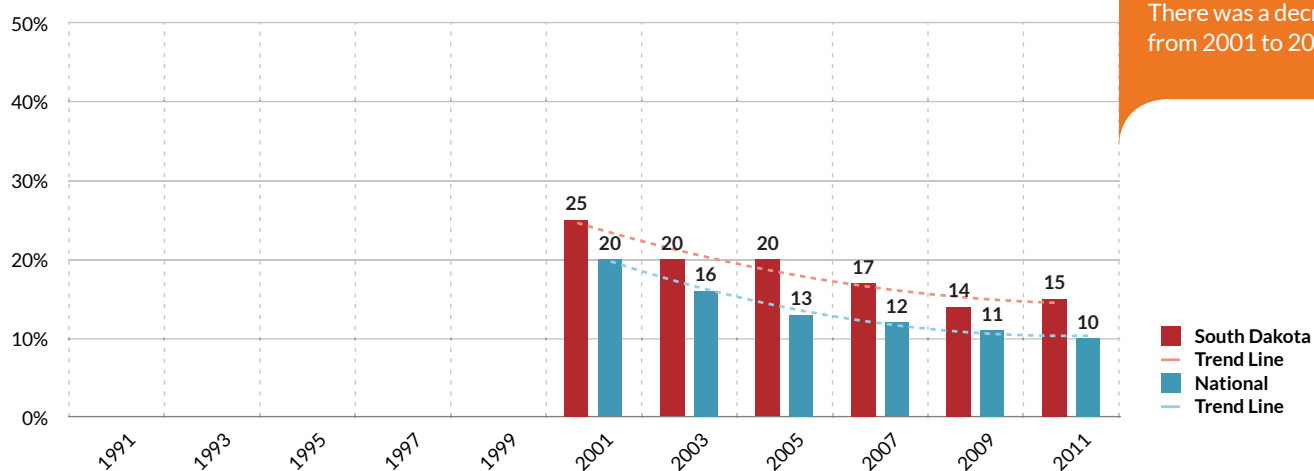
Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

### Question 35

Percentage of respondents who ever smoked cigarettes daily, that is, at least one cigarette every day for 30 days



#### South Dakota Trends

There was a decrease from 2001 to 2011.

#### National Trends

There was a decrease from 2001 to 2011.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Yes

#### QUADRATIC CHANGE

No  
No

### Question 36

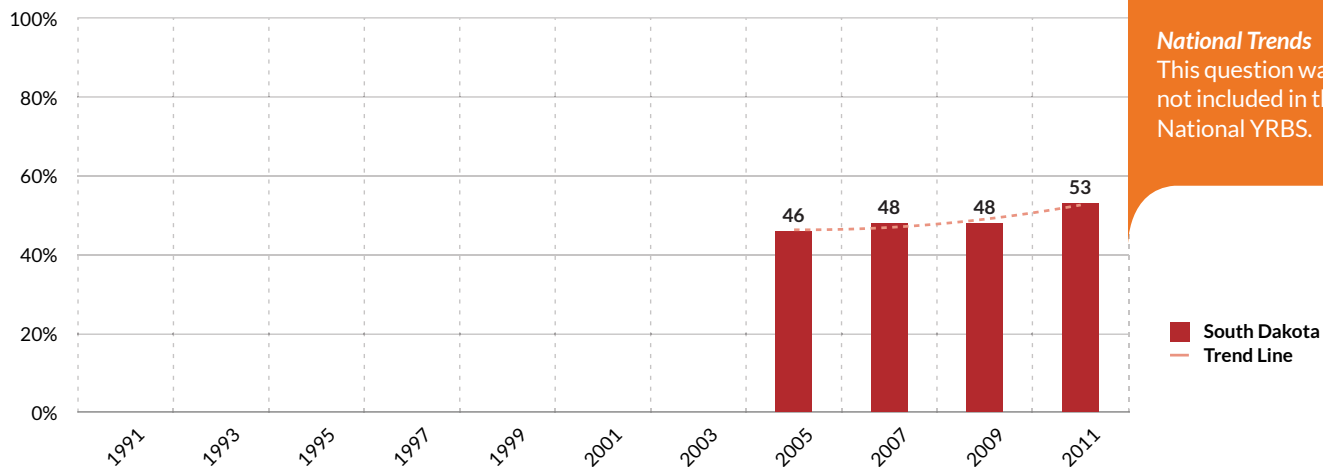
Of respondents who smoked cigarettes during the past 30 days, the percentage who want to stop smoking cigarettes

#### South Dakota Trends

There was no statistically significant change from 2005 to 2011.

#### National Trends

This question was not included in the National YRBS.



**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
No

**QUADRATIC CHANGE**  
No

### Question 37

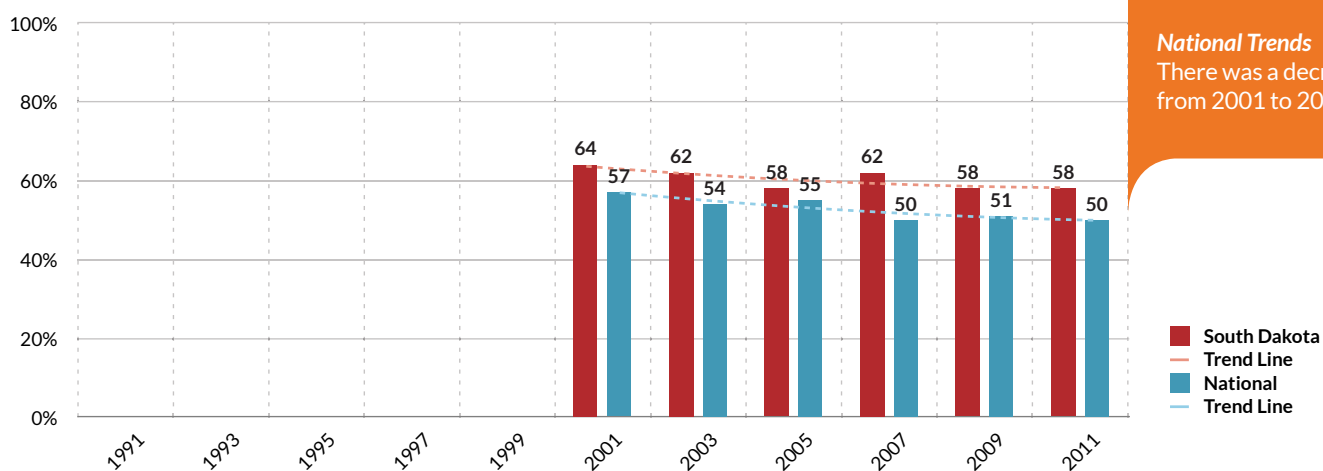
Of respondents who smoked cigarettes during the past 30 days, the percentage who tried to quit smoking cigarettes during the past 12 months

#### South Dakota Trends

There was no statistically significant change from 2001 to 2011.

#### National Trends

There was a decrease from 2001 to 2011.



**TREND ANALYSIS**  
South Dakota  
National

**LINEAR CHANGE**  
No  
Yes

**QUADRATIC CHANGE**  
No  
No

### Question 38

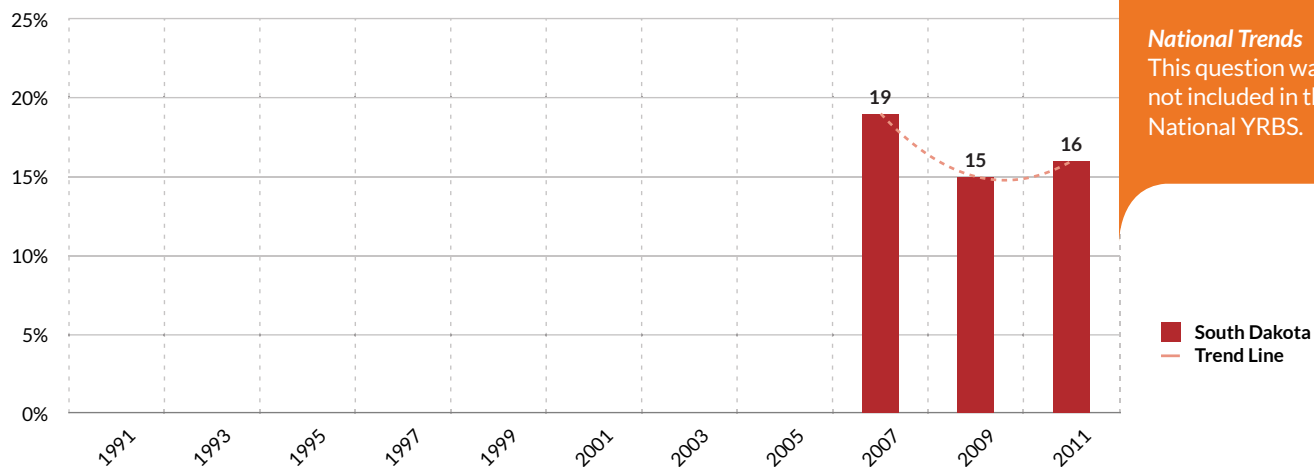
Percentage of respondents who during the past 12 months ever stopped smoking for one day or longer because they were trying to quit smoking

#### South Dakota Trends

There was no statistically significant change from 2007 to 2011.

#### National Trends

This question was not included in the National YRBS.



**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
No

**QUADRATIC CHANGE**  
No

### Question 39

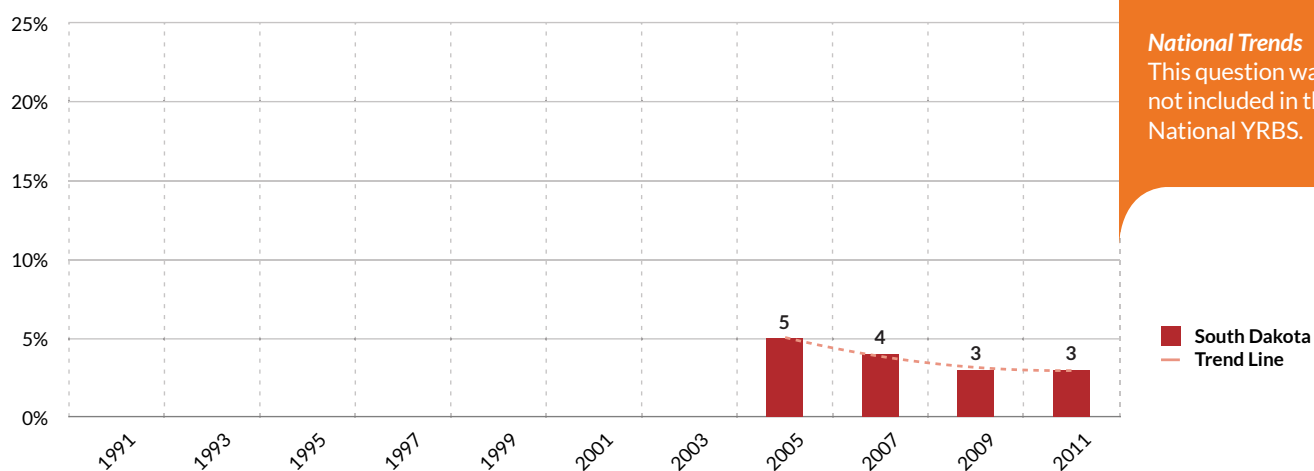
Percentage of respondents who think they definitely will be smoking cigarettes 5 years from now

#### South Dakota Trends

There was no statistically significant change from 2005 to 2011.

#### National Trends

This question was not included in the National YRBS.



**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
No

**QUADRATIC CHANGE**  
No

# Tobacco Use

## Questions:

40. Have you ever used chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?
41. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen?
42. During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip on school property?
43. Do you believe that smokeless tobacco is safer than cigarettes?
44. During this school year, were you taught in any of your classes about the dangers of tobacco use?
45. During the past 7 days, on how many days were you in the same room or car with someone who was smoking cigarettes?

## Rationale:

These questions measure smokeless tobacco use, smokeless tobacco use on school property. Smokeless tobacco contains 28 known human carcinogens.<sup>(64)</sup> Use of smokeless tobacco products increases the risk of developing cancer of the oral cavity.<sup>(64)</sup> Other oral health problems strongly associated with smokeless tobacco use are leukoplakia (a lesion of the soft tissue that consists of a white patch or plaque that cannot be scraped off) and recession of the gums.<sup>(43,99,112)</sup> Smokeless tobacco use also causes an increased risk of heart disease and stroke.<sup>(41)</sup> Among high school students nationwide in 2009, 9% had used smokeless tobacco (e.g., chewing tobacco, snuff, or dip) on at least 1 day during the 30 days before the survey and 6% had used smokeless tobacco on school property on at least 1 day during the 30 days before the survey.<sup>(15)</sup>

## Results:

The results for Questions 40 to 45 are summarized on pages 26 to 28.



### Question 40

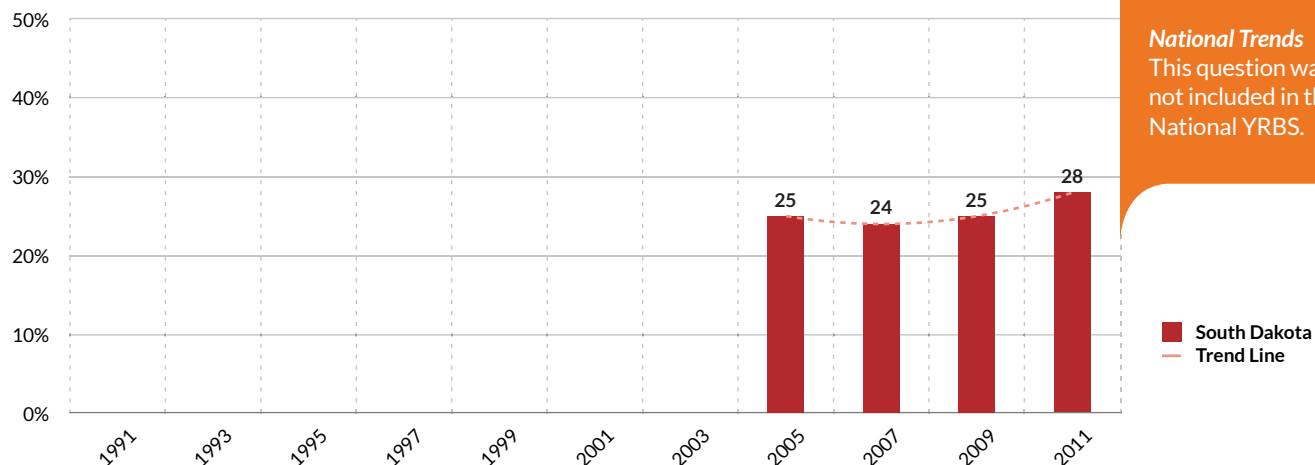
Percentage of respondents who ever used chewing tobacco or snuff such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen, during their lives

#### South Dakota Trends

There was no statistically significant change from 2005 to 2011.

#### National Trends

This question was not included in the National YRBS.



**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
No

**QUADRATIC CHANGE**  
No

### Question 41

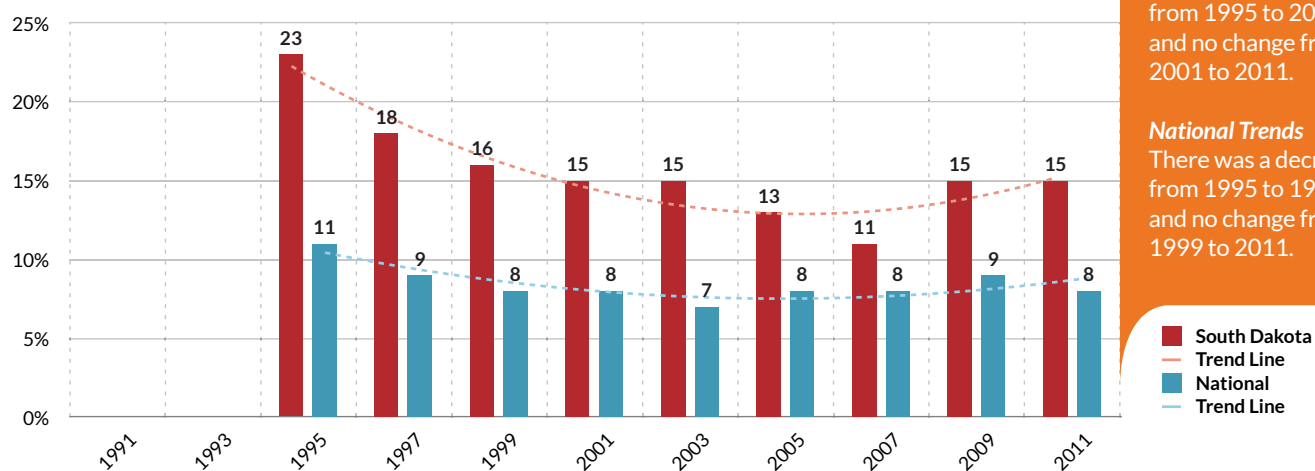
Percentage of respondents who used chewing tobacco or snuff such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen, during the past 30 days

#### South Dakota Trends

Overall there was a decrease from 1995 to 2011. However, there was a decrease from 1995 to 2001, and no change from 2001 to 2011.

#### National Trends

There was a decrease from 1995 to 1999, and no change from 1999 to 2011.



**TREND ANALYSIS**  
South Dakota  
National

**LINEAR CHANGE**  
Yes  
No

**QUADRATIC CHANGE**  
Yes  
Yes

### Question 42

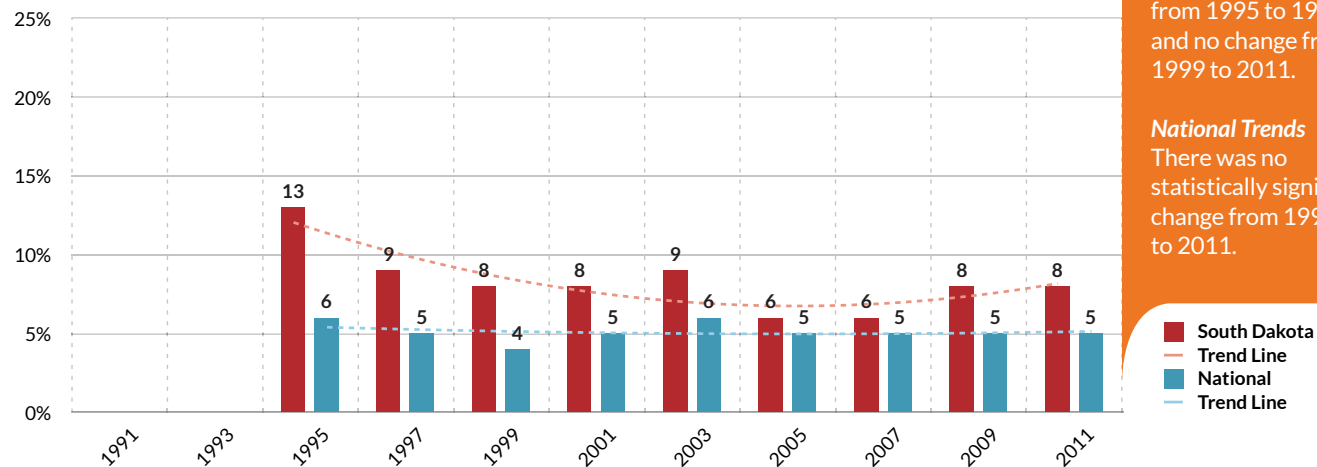
Percentage of respondents who used chewing tobacco or snuff on school property on one or more of the past 30 days

#### South Dakota Trends

Overall there was a decrease from 1995 to 2011. However, there was a decrease from 1995 to 1999, and no change from 1999 to 2011.

#### National Trends

There was no statistically significant change from 1995 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
No

### Question 43

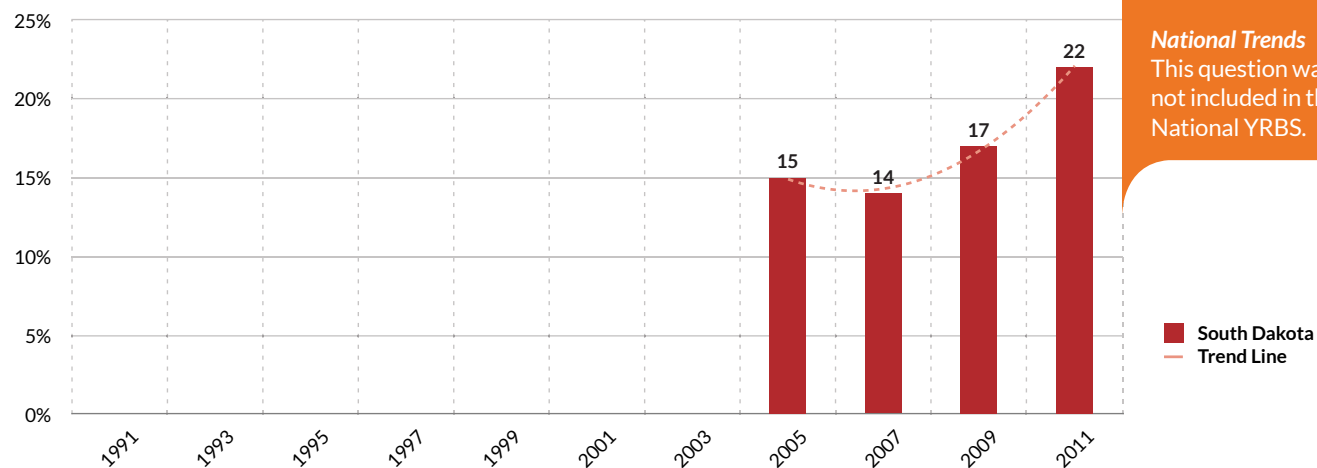
Percentage of respondents who believe that smokeless tobacco is safer than cigarettes

#### South Dakota Trends

There was no statistically significant change from 2005 to 2011.

#### National Trends

This question was not included in the National YRBS.



#### TREND ANALYSIS

South Dakota

#### LINEAR CHANGE

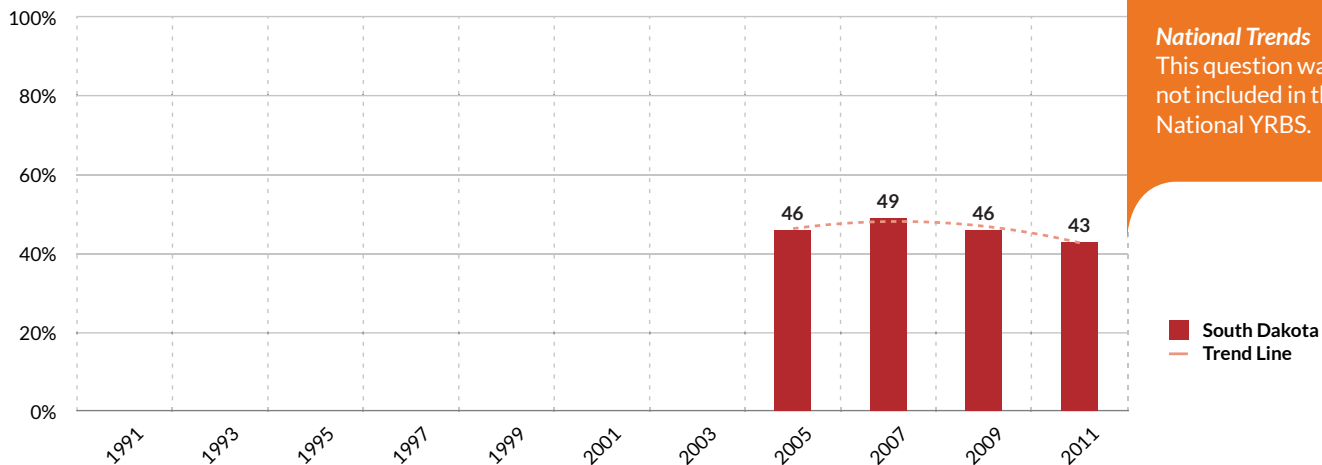
Yes

#### QUADRATIC CHANGE

No

### Question 44

Percentage of respondents who during this school year were taught in any of their classes about the dangers of tobacco use



**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
No

**QUADRATIC CHANGE**  
No

#### South Dakota Trends

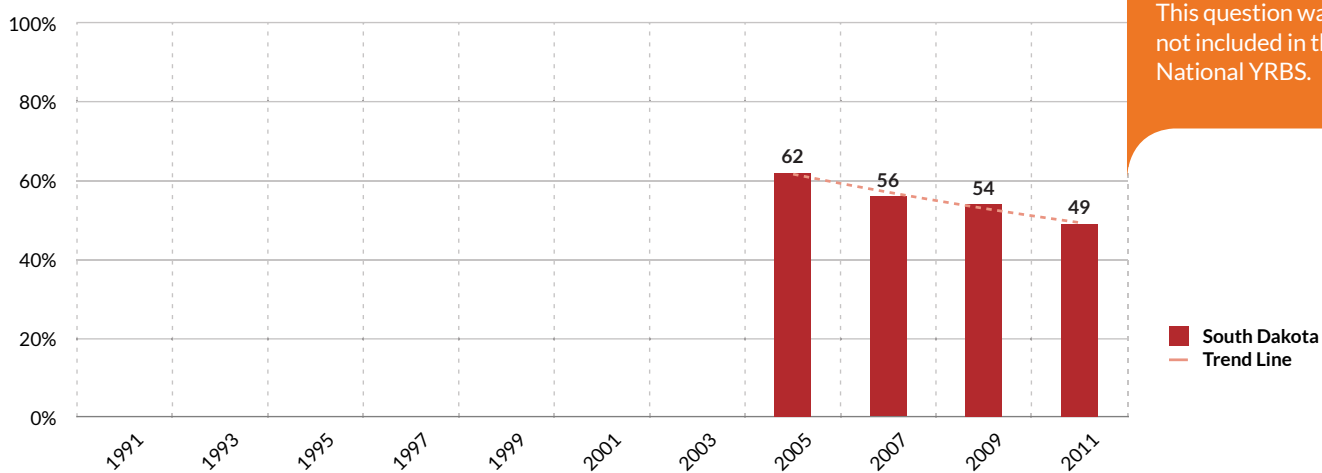
There was no statistically significant change from 2005 to 2011.

#### National Trends

This question was not included in the National YRBS.

### Question 45

Percentage of respondents who during the past 7 days were in the same room or car with someone who was smoking cigarettes



**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
Yes

**QUADRATIC CHANGE**  
No

#### South Dakota Trends

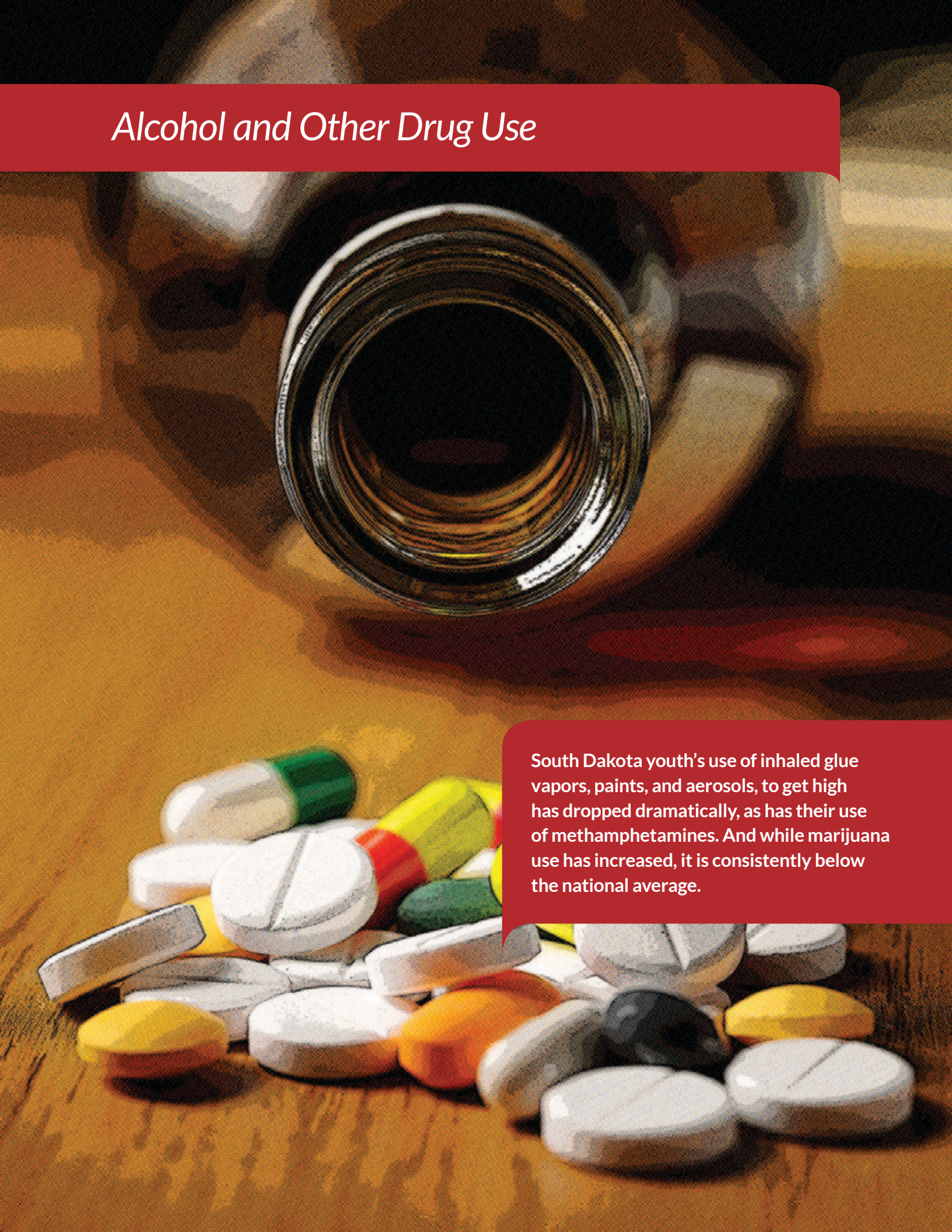
There was a decrease from 2005 to 2011.

#### National Trends

This question was not included in the National YRBS.



## *Alcohol and Other Drug Use*

A photograph of a clear glass bottle lying on its side on a wooden surface. The bottle is empty, and its opening is visible. Scattered in the foreground are numerous pills of various shapes, sizes, and colors, including white, yellow, orange, green, and black. The background is a warm, textured wooden surface.

South Dakota youth's use of inhaled glue vapors, paints, and aerosols, to get high has dropped dramatically, as has their use of methamphetamines. And while marijuana use has increased, it is consistently below the national average.



# Alcohol and Other Drug Use

## Questions:

- 46. During your life, on how many days have you had at least one drink of alcohol?
- 47. How old were you when you had your first drink of alcohol other than a few sips?
- 48. During the past 30 days, on how many days did you have at least one drink of alcohol?
- 49. During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?

## Rationale:

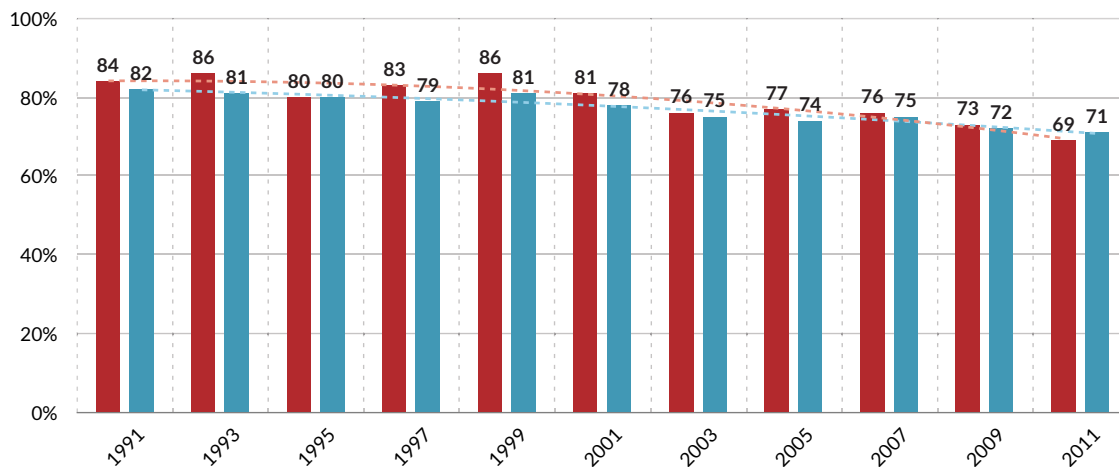
These questions measure ever and current use of alcohol, age of initiation, and binge drinking. Alcohol is used by more young people than tobacco or illicit drugs.<sup>(92)</sup> Heavy alcohol drinking among youth is associated with risky sexual behaviors (including sexual initiation, multiple sex partners, reduced condom use, and pregnancy)<sup>(23)</sup> and use of cigarettes,<sup>(26,44)</sup> marijuana, cocaine, and other illegal drugs.<sup>(26)</sup> Motor vehicle crashes are the leading cause of death among youth ages 15–19 years in the United States<sup>(107)</sup> and alcohol use is associated with 9% of all motor vehicle crashes that result in injury and approximately one-third of all traffic-related fatalities.<sup>(68)</sup> Persons who begin drinking alcohol before the age of 15 years are five times as likely to report alcohol dependence or abuse than those who first drank alcohol at age 21 or older.<sup>(88)</sup> Limiting youth access to alcohol has reduced underage alcohol use and alcohol-related problems.<sup>(51)</sup> However, youth continue to obtain alcohol from a variety of sources, reflecting the need for improved enforcement of underage drinking laws as well as greater public awareness of restrictions on drinking alcohol by underage youth. Nearly 100% of school districts in the United States explicitly prohibit alcohol use by students on school property.<sup>(24)</sup> Among high school students nationwide in 2009, 72% had had at least one drink of alcohol on at least 1 day during their life and 42% had had at least one drink of alcohol on at least 1 day during the 30 days before the survey.<sup>(15)</sup> In addition, 24% of high school students had had 5 or more drinks of alcohol in a row on at least 1 day during the 30 days before the survey.<sup>(15)</sup>

## Results:

The results for Questions 46 to 49 are summarized on pages 31 to 32.

### Question 46

Percentage of respondents who had at least one drink of alcohol on one or more days during their life



#### South Dakota Trends

Overall there was a decrease from 1991 to 2011. However, there was an increase from 1991 to 1999, and a decrease from 1999 to 2011.

#### National Trends

There was no change from 1991 to 1999, and a decrease from 1999 to 2011.

■ South Dakota  
— Trend Line  
■ National  
— Trend Line

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

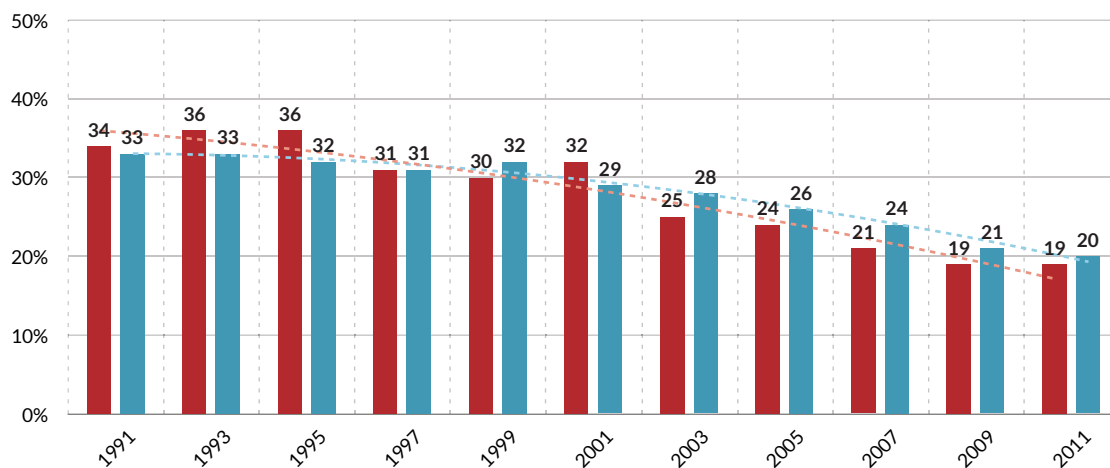
Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

### Question 47

Percentage of respondents who had their first drink of alcohol other than a few sips prior to age 13



#### South Dakota Trends

Overall there was a decrease from 1991 to 2011. However, there was no change from 1991 to 1995, and a decrease from 1995 to 2011.

#### National Trends

There was no change from 1991 to 1995, and a decrease from 1995 to 2011.

■ South Dakota  
— Trend Line  
■ National  
— Trend Line

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

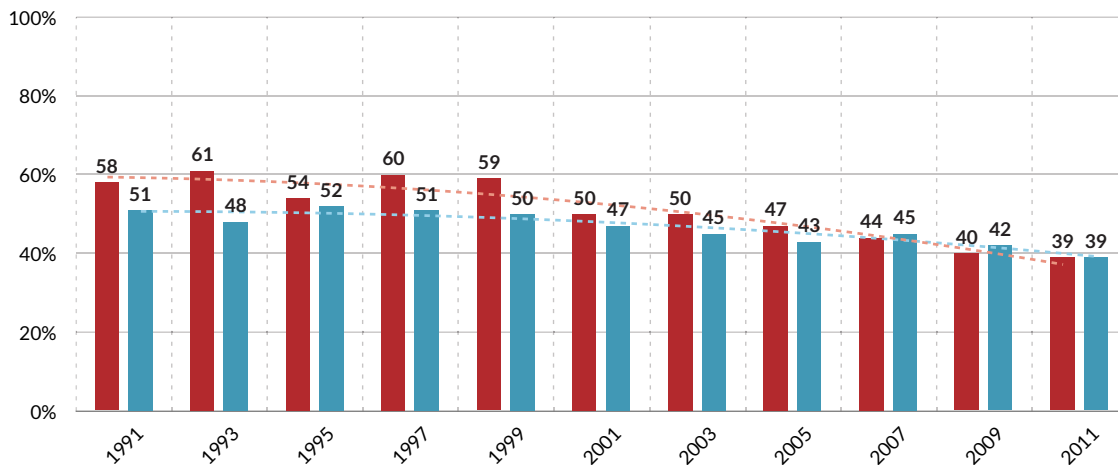
Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

### Question 48

Percentage of respondents who had at least one drink of alcohol on one or more of the past 30 days



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

#### South Dakota Trends

Overall there was a decrease from 1991 to 2011. However, there was no change from 1991 to 1999, and a decrease from 1999 to 2011.

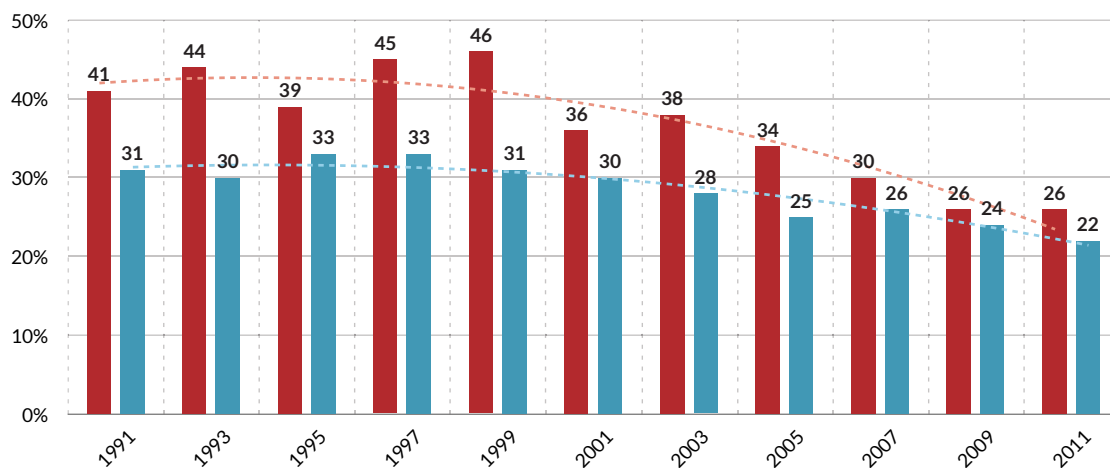
#### National Trends

There was no change from 1991 to 1999, and a decrease from 1999 to 2011.

■ South Dakota  
— Trend Line  
■ National  
— Trend Line

### Question 49

Percentage of respondents who had 5 or more drinks of alcohol in a row, that is, within a couple of hours, on one or more of the past 30 days



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

#### South Dakota Trends

Overall there was a decrease from 1991 to 2011. However, there was an increase from 1991 to 1999, and a decrease from 1999 to 2011.

#### National Trends

There was no change from 1991 to 1999, and a decrease from 1999 to 2011.

■ South Dakota  
— Trend Line  
■ National  
— Trend Line



# Alcohol and Other Drug Use

## Questions:

51. During your life, how many times have you used marijuana?
52. How old were you when you tried marijuana for the first time?
53. During the past 30 days, how many times did you use marijuana?
55. During the past 30 days, how many times did you use any form of cocaine, including powder, crack, or freebase?
56. During your life, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?
57. During the past 30 days, how many times have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?
58. During your life, how many times have you used methamphetamines (also called speed, crystal, crank, or ice)?
60. During your life, how many times have you taken steroid pills or shots without a doctor's prescription?
61. During the past 30 days, how many times have you taken over-the-counter drugs to get high?
62. During your life, how many times have you used a needle to inject any illegal drug into your body?
63. During the past 12 months, has anyone offered, sold, or given you an illegal drug on school property?

## Rationale:

These questions measure ever and current use of marijuana, cocaine and inhalants, and ever use of methamphetamines, steroids, injected drugs, and prescription drug abuse. Among youth, illicit drug use is associated with heavy alcohol and tobacco use,<sup>(92)</sup> violence and delinquency,<sup>(89,90,91,94)</sup> and suicide.<sup>(93)</sup> All school districts prohibit illegal drug possession or use by students on school property.<sup>(24)</sup> Among high school students nationwide in 2009, 37% had used marijuana, 6% had used any form of cocaine, 3% had taken steroid pills or shots without a doctor's prescription, and 4% had used methamphetamines one or more times during their life.<sup>(15)</sup> In addition, 12% of high school students had sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high and 2% had used a needle to inject any illegal drug into their body one or more times during their life.<sup>(15)</sup>

## Results:

The results for Questions 51 to 53, 55 to 58, and 60 to 63 are summarized on pages 34 to 39.

### Question 51

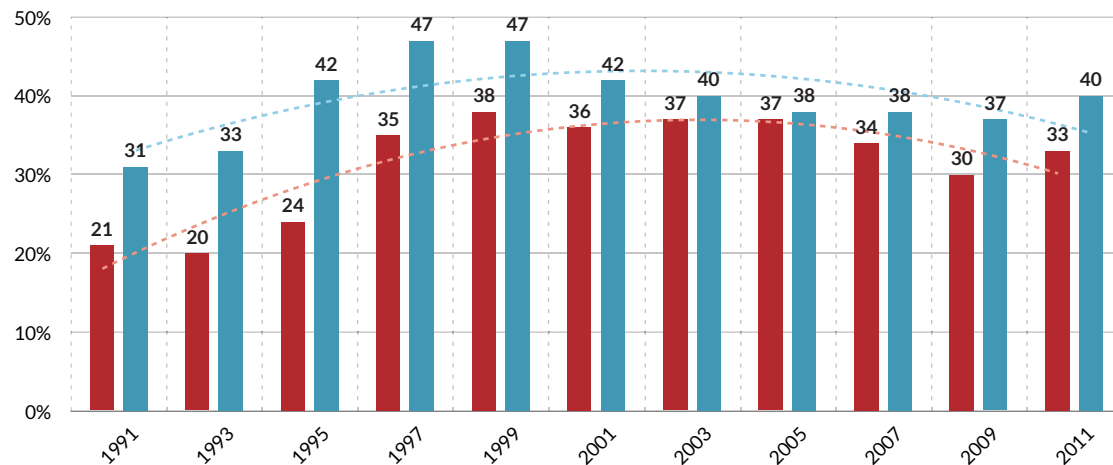
Percentage of respondents who used marijuana one or more times during their life

#### South Dakota Trends

Overall there was an increase from 1991 to 2011. However, there was an increase from 1991 to 1999, and no change from 1999 to 2011.

#### National Trends

There was an increase from 1991 to 1999, and a decrease from 1999 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

### Question 52

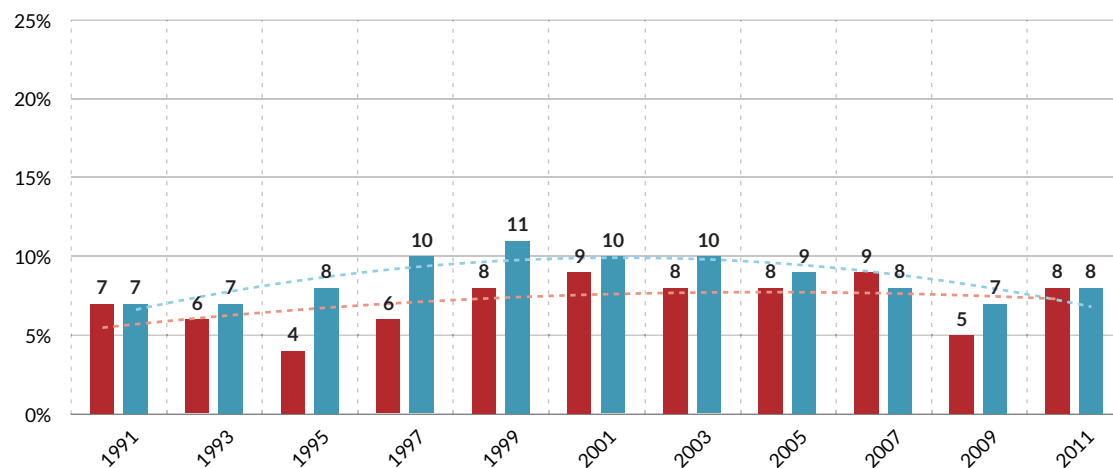
Percentage of respondents who tried marijuana for the first time prior to age 13

#### South Dakota Trends

There was no statistically significant change from 1991 to 2011.

#### National Trends

There was an increase from 1991 to 1999, and a decrease from 1999 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
No

#### QUADRATIC CHANGE

No  
Yes

### Question 53

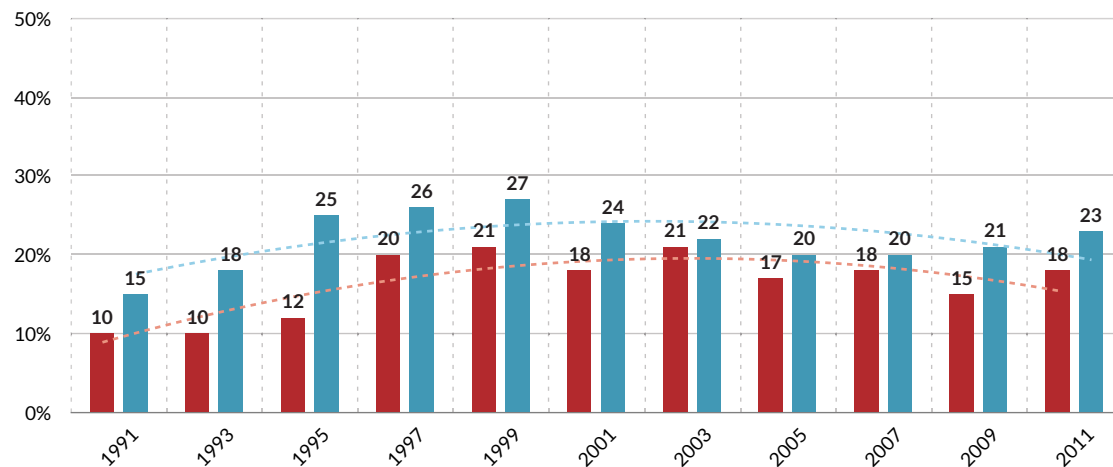
Percentage of respondents who used marijuana one or more times during the past 30 days

#### South Dakota Trends

Overall there was an increase from 1991 to 2011. However, there was an increase from 1991 to 1997, and no change from 1997 to 2011.

#### National Trends

There was an increase from 1991 to 1999, and a decrease from 1999 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

### Question 55

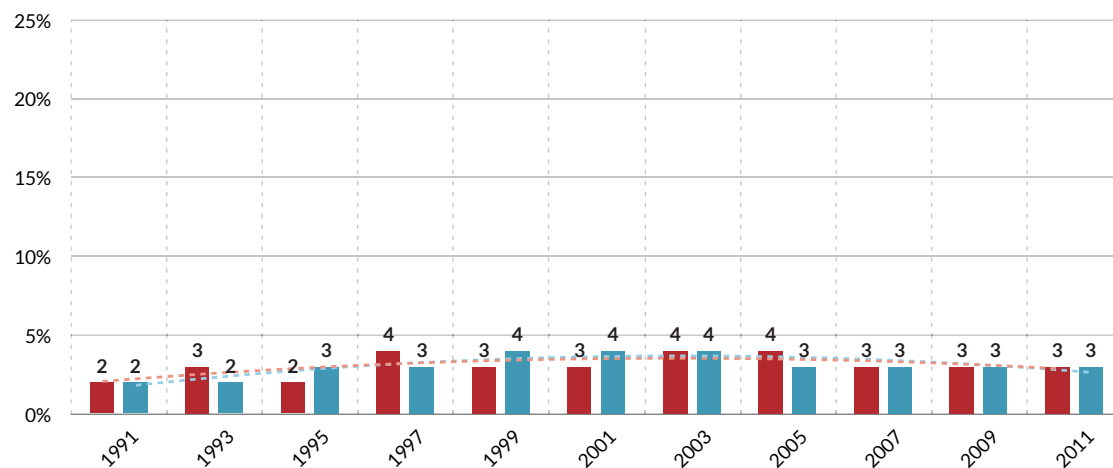
Percentage of respondents who had used any form of cocaine including powder, crack, or freebase, one or more times during the past 30 days

#### South Dakota Trends

There was an increase from 1991 to 1997, and a decrease from 1997 to 2011.

#### National Trends

There was an increase from 1991 to 2001, and a decrease from 2001 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
No

#### QUADRATIC CHANGE

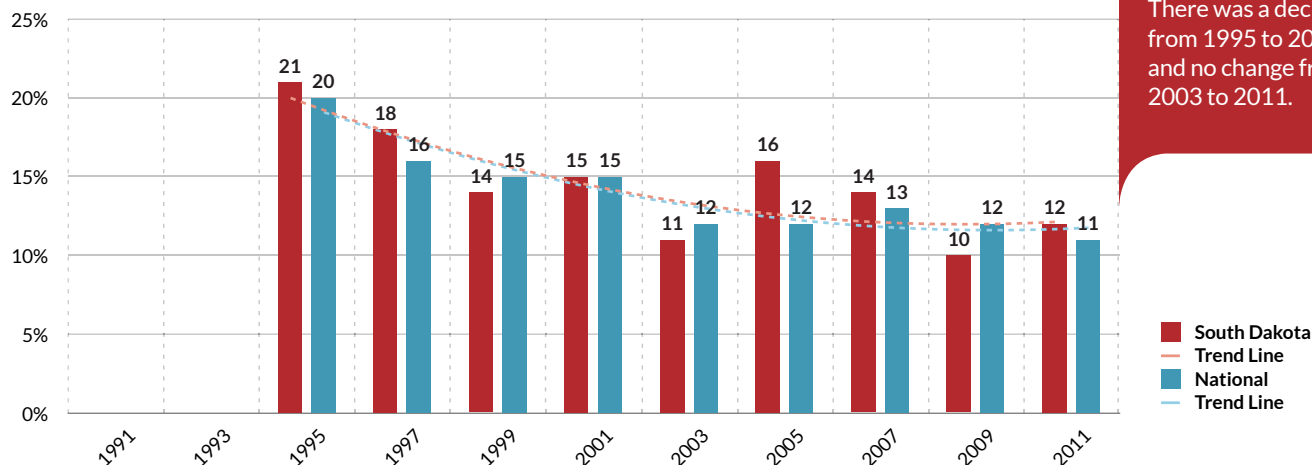
Yes  
Yes

### Question 56

Percentage of respondents who had sniffed glue, breathed the contents of aerosol spray cans, or inhaled any sprays or paints to get high during their life

**South Dakota Trends**  
There was a decrease from 1995 to 2011.

**National Trends**  
There was a decrease from 1995 to 2003, and no change from 2003 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

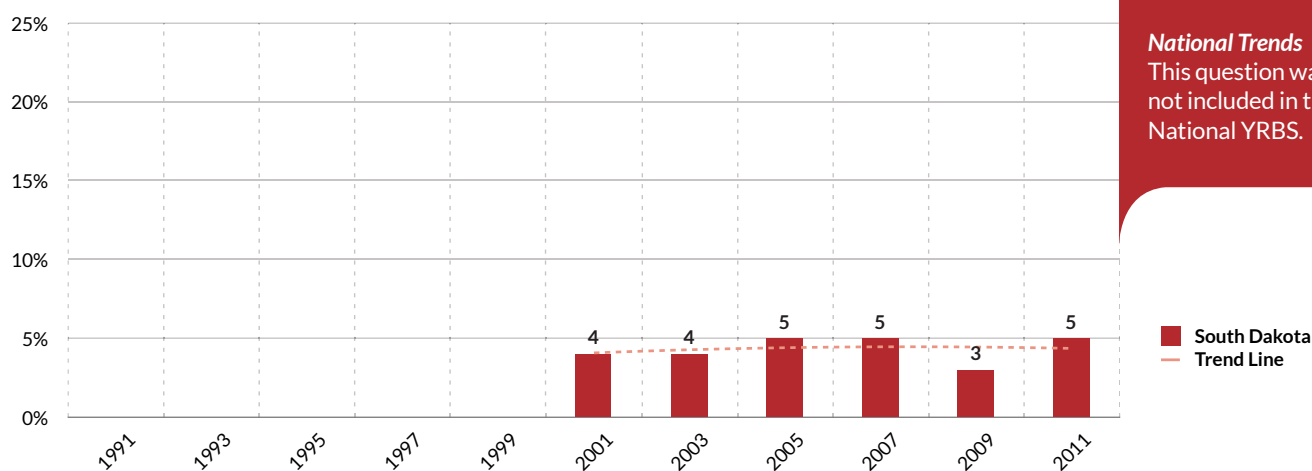
No  
Yes

### Question 57

Percentage of respondents who had sniffed glue, breathed the contents of aerosol spray cans, or inhaled any sprays or paints to get high during the past 30 days

**South Dakota Trends**  
There was no statistically significant change from 2001 to 2011.

**National Trends**  
This question was not included in the National YRBS.



#### TREND ANALYSIS

South Dakota

#### LINEAR CHANGE

No

#### QUADRATIC CHANGE

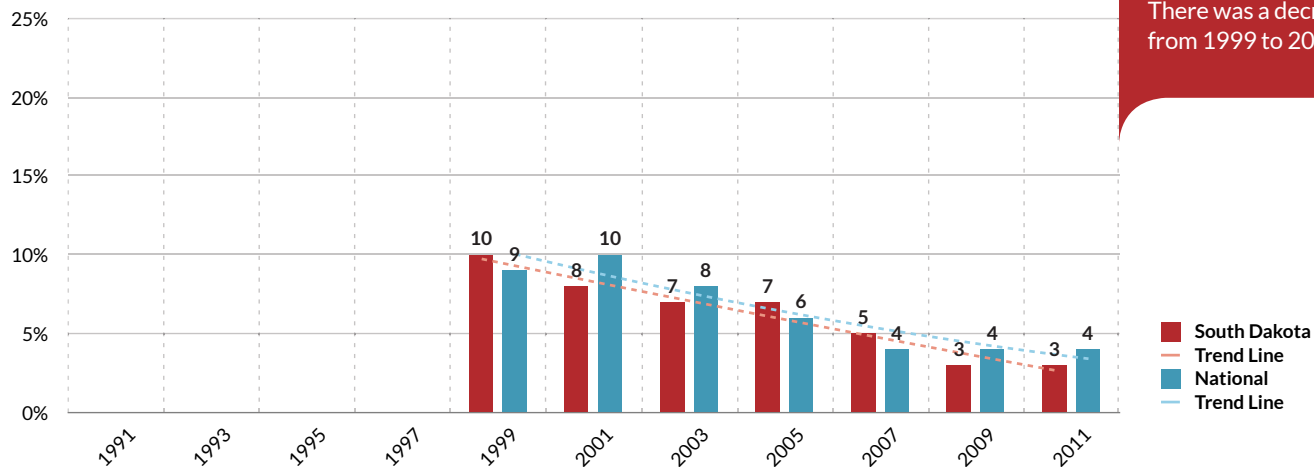
No

### Question 58

Percentage of respondents who used methamphetamines one or more times during their life

**South Dakota Trends**  
There was a decrease from 1999 to 2011.

**National Trends**  
There was a decrease from 1999 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Yes

#### QUADRATIC CHANGE

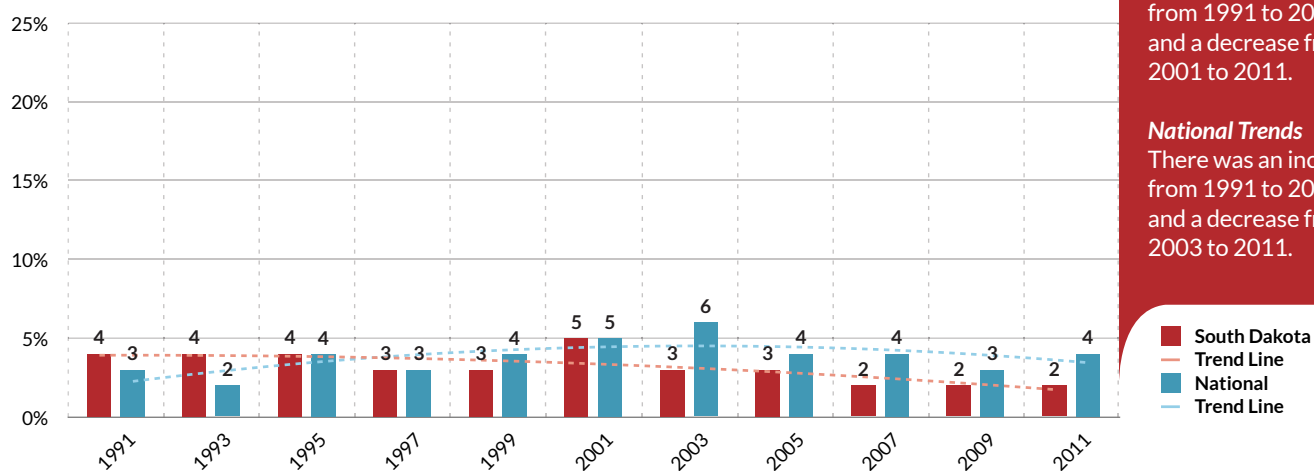
No  
No

### Question 60

Percentage of respondents who had taken steroid pills or shots without a doctor's prescription, one or more times during their life

**South Dakota Trends**  
Overall there was a decrease from 1991 to 2011. However, there was no change from 1991 to 2001, and a decrease from 2001 to 2011.

**National Trends**  
There was an increase from 1991 to 2003, and a decrease from 2003 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes

### Question 61

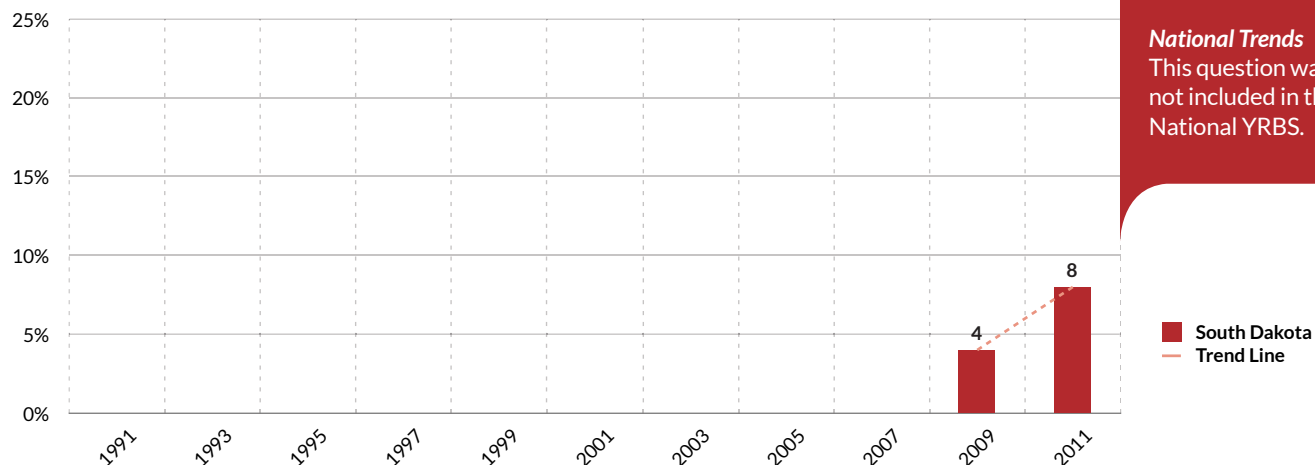
Percentage of respondents who have taken over-the-counter drugs to get high during the past 30 days

#### South Dakota Trends

There was no statistically significant change from 2009 to 2011.

#### National Trends

This question was not included in the National YRBS.



**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
No

**QUADRATIC CHANGE**  
Not Applicable

### Question 62

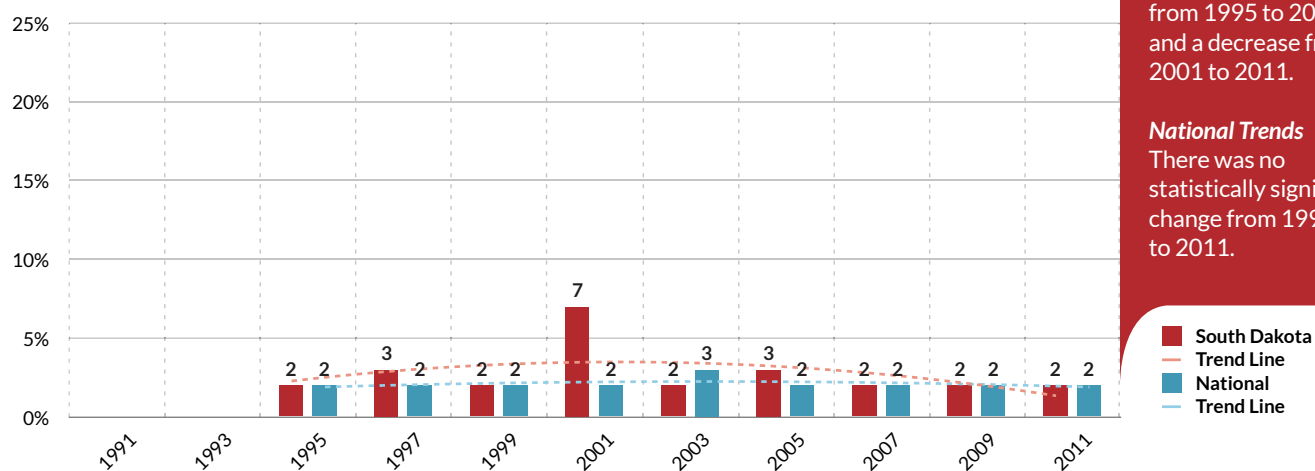
Percentage of respondents who ever used a needle to inject any illegal drug into their body one or more times during their life

#### South Dakota Trends

Overall there was a decrease from 1995 to 2011. However, there was an increase from 1995 to 2001, and a decrease from 2001 to 2011.

#### National Trends

There was no statistically significant change from 1995 to 2011.



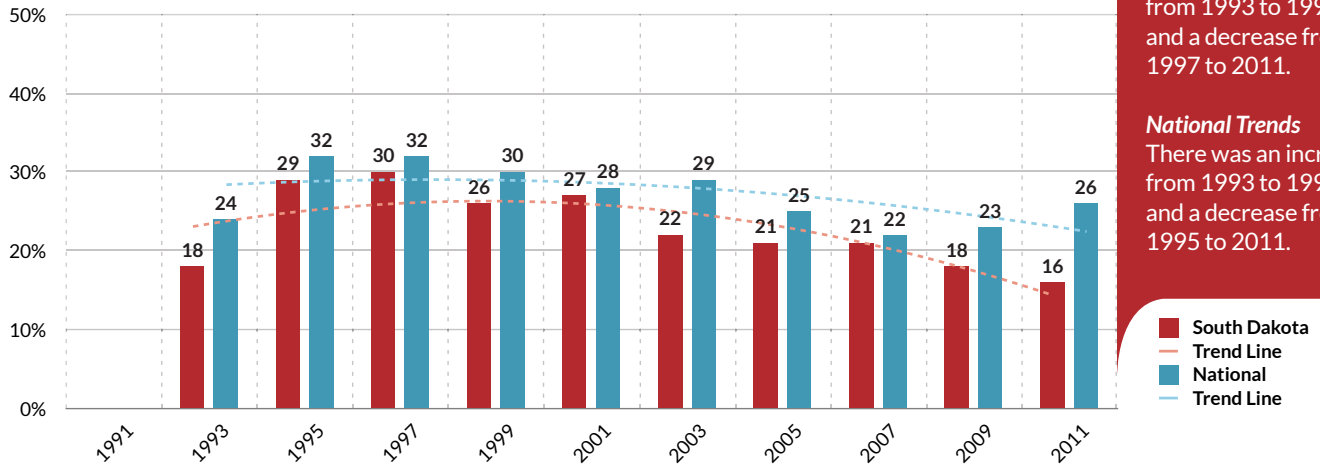
**TREND ANALYSIS**  
South Dakota  
National

**LINEAR CHANGE**  
Yes  
No

**QUADRATIC CHANGE**  
Yes  
No

### Question 63

Percentage of respondents who have had someone offer, sell, or give them an illegal drug on school property during the past 12 months



**South Dakota Trends**  
Overall there was a decrease from 1993 to 2011. However, there was an increase from 1993 to 1997, and a decrease from 1997 to 2011.

**National Trends**  
There was an increase from 1993 to 1995, and a decrease from 1995 to 2011.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

Yes  
Yes









## *Sexual Behaviors that Result in HIV Infection, Other Sexually Transmitted Diseases, and Unintended Pregnancies*

In general South Dakota youth's sexual behaviors are on par with the national average. Roughly  $\frac{1}{2}$  of SD youth have had sexual intercourse. Around 35% are currently sexually active, and HIV/AIDS education in schools has declined.



# Sexual Behaviors that Result in HIV Infection, Other Sexually Transmitted Diseases, and Unintended Pregnancies

## Questions:

- 64. Have you ever had sexual intercourse?
- 65. How old were you when you had sexual intercourse for the first time?
- 66. During your life, with how many people have you had sexual intercourse?
- 67. During the past 3 months, with how many people did you have sexual intercourse?
- 68. Did you drink alcohol or use drugs before you had sexual intercourse the last time?
- 69. The last time you had sexual intercourse, did you or your partner use a condom?
- 70. The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy?
- 95. Have you ever been taught about AIDS or HIV infection in school?
- 96. Have you ever talked about AIDS or HIV infection with your parents or other adults in your family?
- 97. Have you ever been tested for any sexually transmitted disease (STD)?

## Rationale:

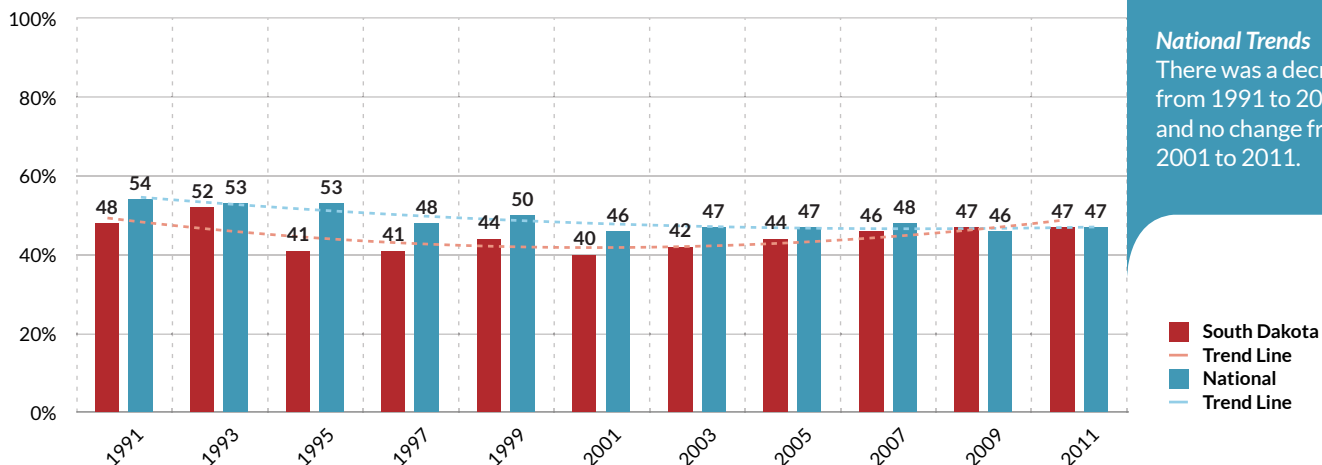
These questions measure the prevalence of sexual activity, number of sexual partners, age at first intercourse, alcohol and other drug use related to sexual activity, condom use, contraceptive use, and whether high school students received HIV prevention education. Early initiation of sexual intercourse is associated with having a greater number of lifetime sexual partners.<sup>(17,29,47,80,81,82)</sup> In addition, adolescents who initiate sexual intercourse early are less likely to use contraception<sup>(56,58,82)</sup> and are at higher risk for pregnancy.<sup>(57,96)</sup> Recent estimates suggest that while representing 25% of the ever sexually active population, persons ages 15-24 years acquire nearly half of all new STDs.<sup>(108)</sup> Gonorrhea rates are highest among females between the ages of 15 and 19 years (636.8 cases per 100,000 females) and males between the ages of 20 and 24 years (433.6 cases per 100,000 males).<sup>(13)</sup> In 2007, there were an estimated 6,610 cases of HIV/AIDS among persons ages 15–24 years.<sup>(10)</sup> Among high school students nationwide in 2009, 46% had ever had sexual intercourse, 14% had had sexual intercourse with four or more persons during their life, and 34% had had sexual intercourse with at least one person during the 3 months before the survey.<sup>(15)</sup> In 2009, among the 34% of students who were currently sexually active, 61% reported that either they or their partner had used a condom during last sexual intercourse.<sup>(15)</sup> Among high school students nationwide in 2009, 87.0% of students had ever been taught in school about AIDS or HIV infection.<sup>(15)</sup>

## Results:

The results for Questions 64 to 70, and 95 to 97 are summarized on pages 43 to 47.

## Question 64

Percentage of respondents who ever had sexual intercourse



**South Dakota Trends**  
There was a decrease from 1991 to 2001, and an increase from 2001 to 2011.

**National Trends**  
There was a decrease from 1991 to 2001, and no change from 2001 to 2011.

### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

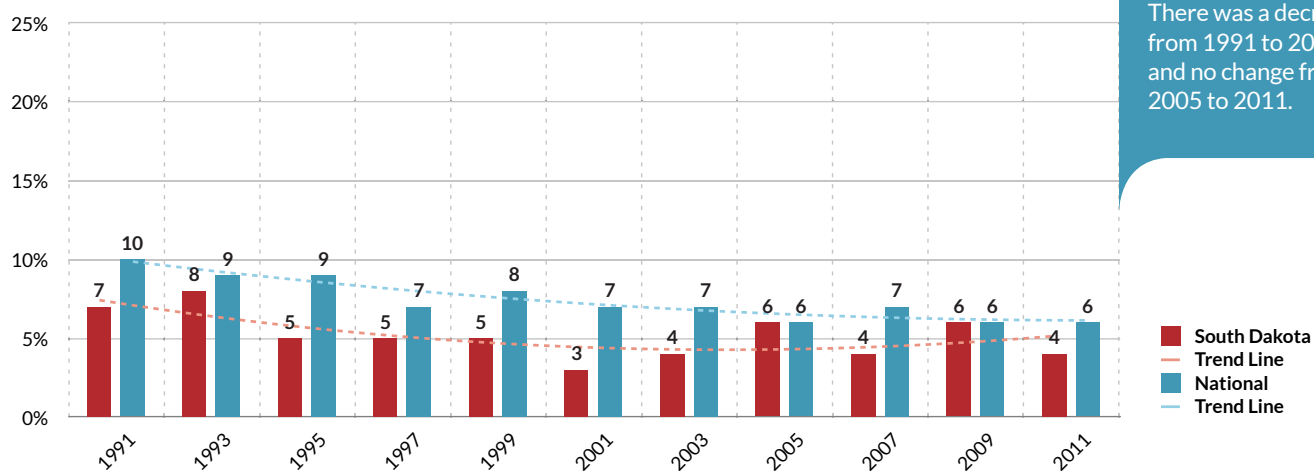
No  
No

### QUADRATIC CHANGE

Yes  
Yes

## Question 65

Percentage of respondents who had sexual intercourse for the first time prior to age 13



**South Dakota Trends**  
There was a decrease from 1991 to 2011.

**National Trends**  
There was a decrease from 1991 to 2005, and no change from 2005 to 2011.

### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

Yes  
No

### QUADRATIC CHANGE

No  
Yes

## Question 66

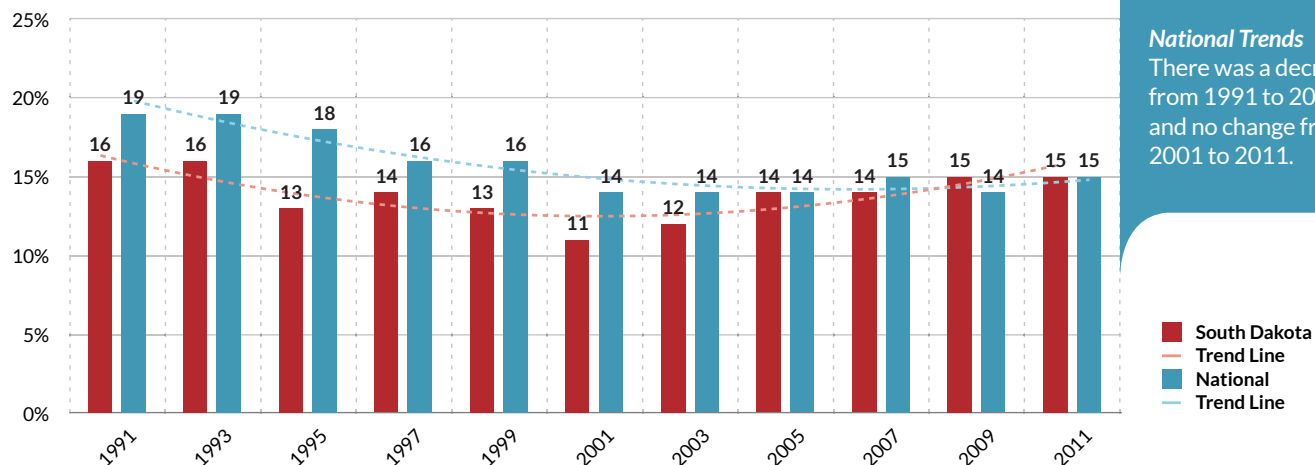
Percentage of respondents who had sexual intercourse with four or more people during their life

### South Dakota Trends

There was a decrease from 1991 to 2001, and no change from 2001 to 2011.

### National Trends

There was a decrease from 1991 to 2001, and no change from 2001 to 2011.



### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

No  
No

### QUADRATIC CHANGE

Yes  
Yes

## Question 67

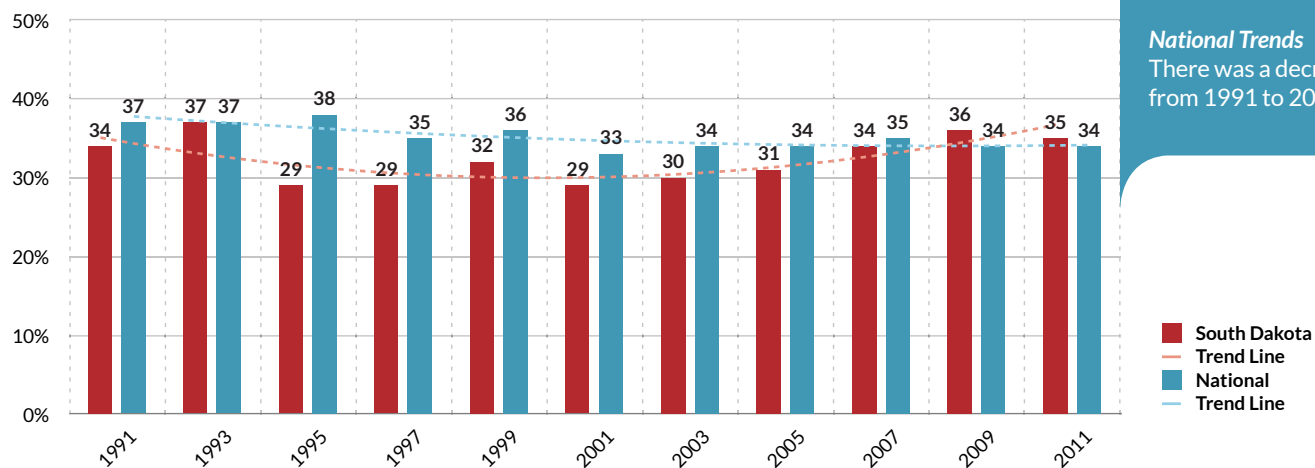
Percentage of respondents who had sexual intercourse with one or more people during the past 3 months

### South Dakota Trends

There was a decrease from 1991 to 1995, and an increase from 1995 to 2011.

### National Trends

There was a decrease from 1991 to 2011.



### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

No  
Yes

### QUADRATIC CHANGE

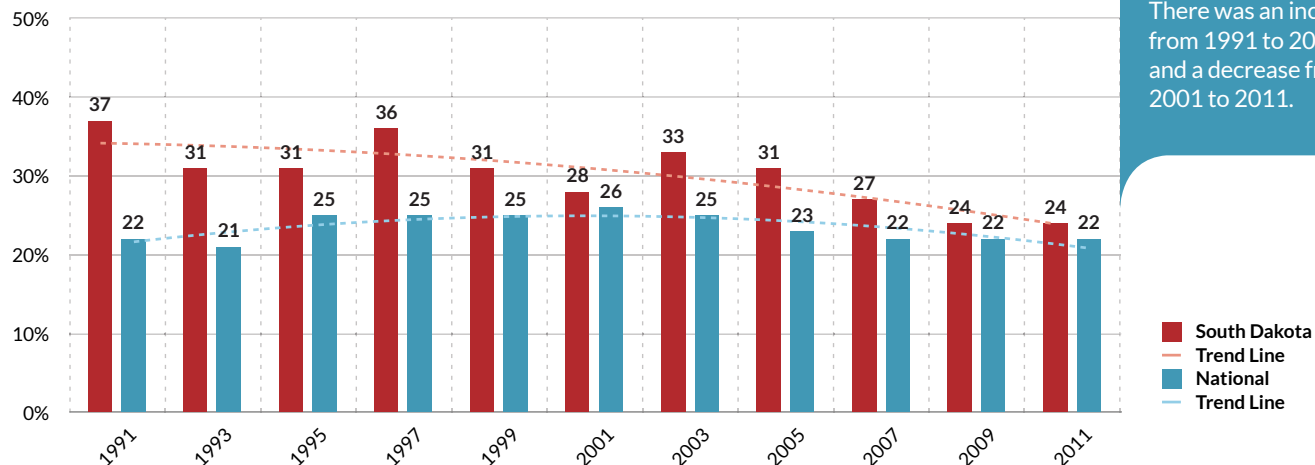
Yes  
No

### Question 68

Of respondents who had sexual intercourse during the past 3 months, the percentage who drank alcohol or used drugs before last sexual intercourse

**South Dakota Trends**  
There was a decrease from 1991 to 2011.

**National Trends**  
There was an increase from 1991 to 2001, and a decrease from 2001 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

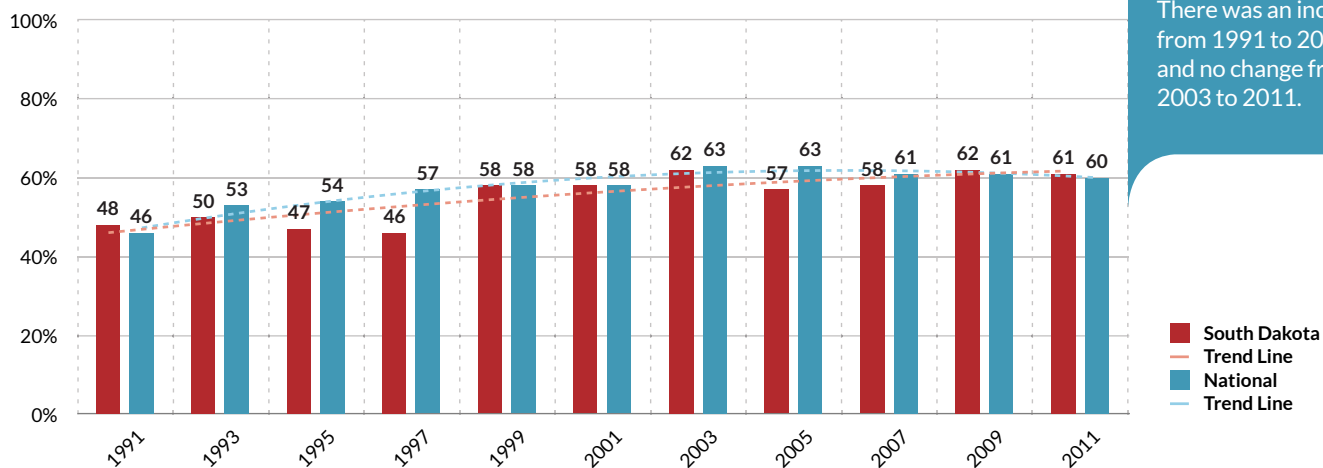
No  
Yes

### Question 69

Of respondents who had sexual intercourse during the past 3 months, the percentage who used or whose partner used a condom during last sexual intercourse

**South Dakota Trends**  
There was an increase from 1991 to 2011.

**National Trends**  
There was an increase from 1991 to 2003, and no change from 2003 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

No  
Yes

## Question 70

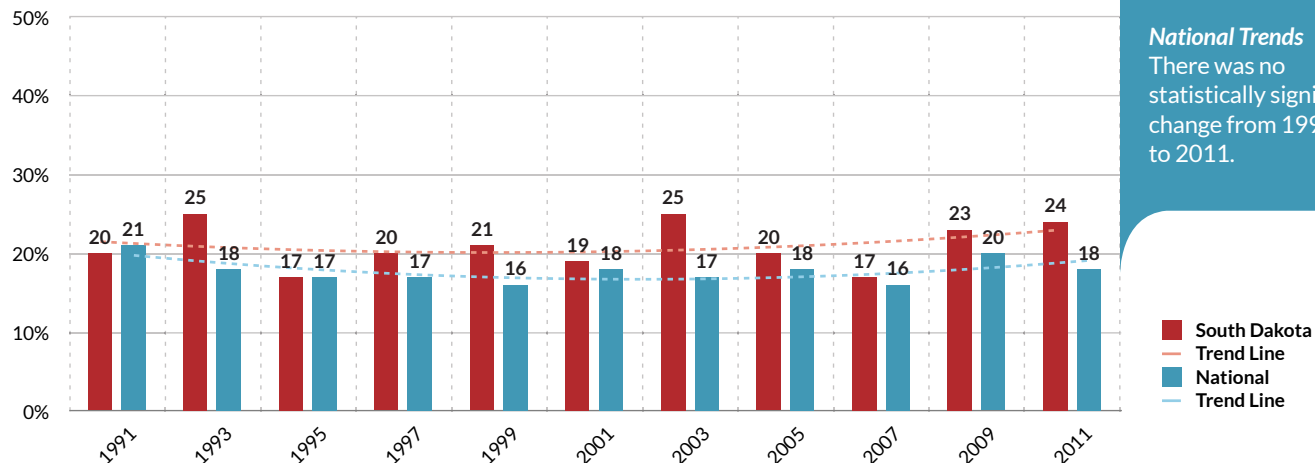
Of respondents who had sexual intercourse during the past 3 months, the percentage who used or whose partner used birth control pills to prevent pregnancy during last sexual intercourse

### South Dakota Trends

There was no statistically significant change from 1991 to 2011.

### National Trends

There was no statistically significant change from 1991 to 2011.



### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

No  
No

### QUADRATIC CHANGE

No  
No

## Question 95

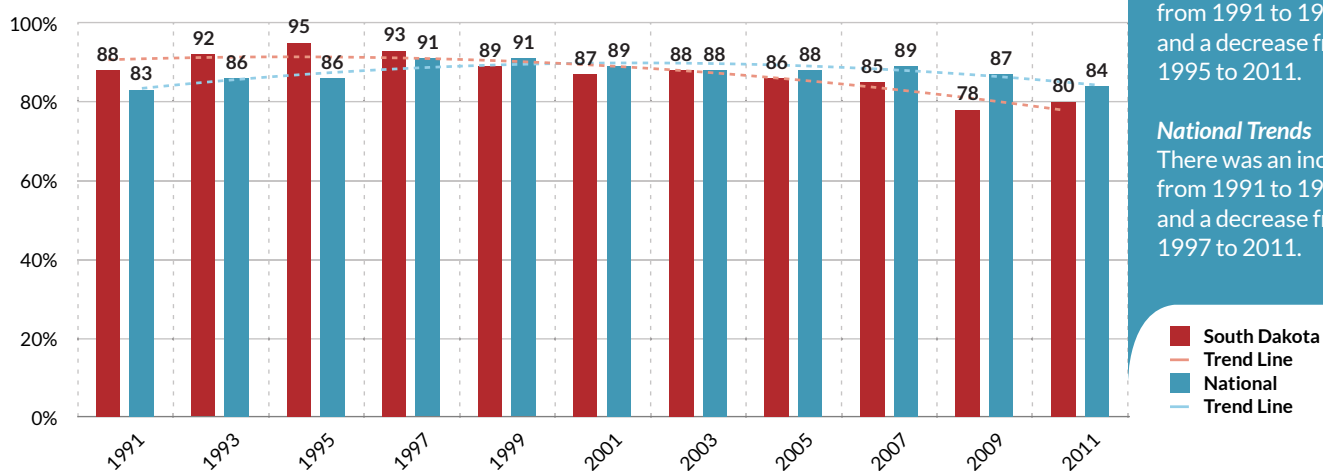
Percentage of respondents who had been taught about AIDS/HIV infection in school

### South Dakota Trends

Overall there was a decrease from 1991 to 2011. However, there was an increase from 1991 to 1995, and a decrease from 1995 to 2011.

### National Trends

There was an increase from 1991 to 1997, and a decrease from 1997 to 2011.



### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

Yes  
No

### QUADRATIC CHANGE

Yes  
Yes

### Question 96

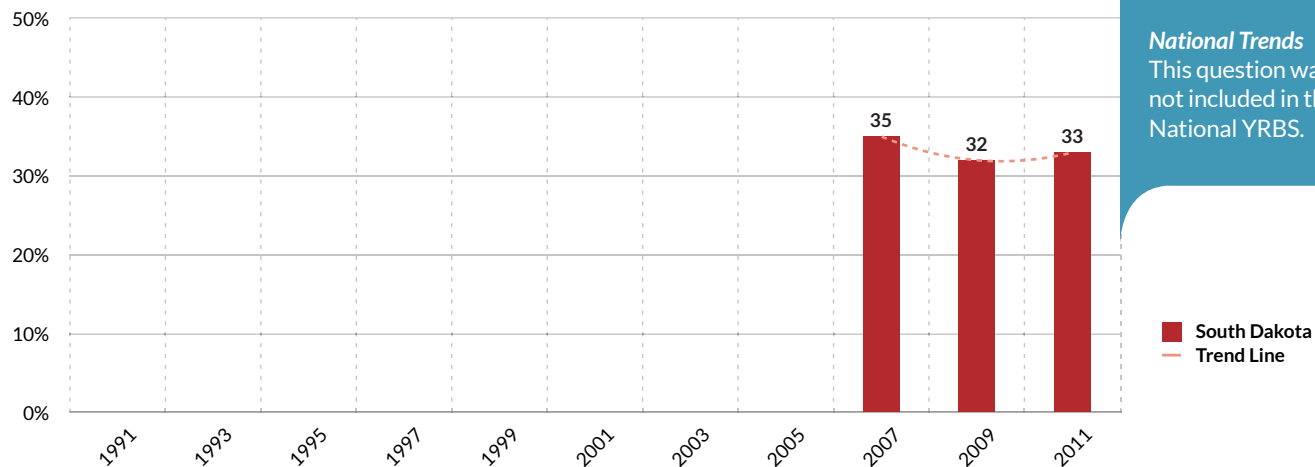
Percentage of respondents who have ever talked about AIDS or HIV infection with their parents or other adults in their family

#### South Dakota Trends

There was no statistically significant change from 2007 to 2011.

#### National Trends

This question was not included in the National YRBS.



**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
No

**QUADRATIC CHANGE**  
No

### Question 97

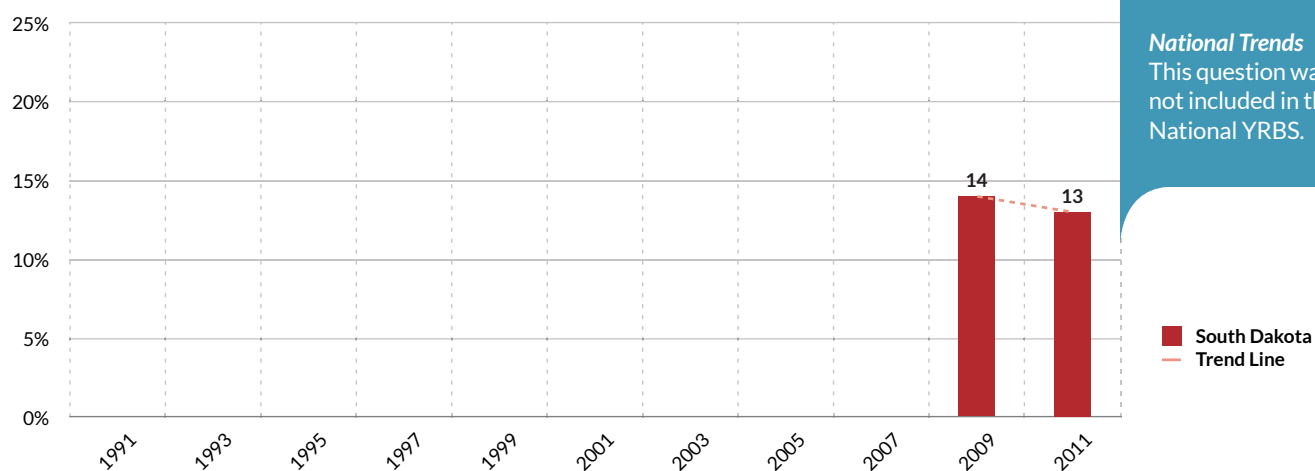
Percentage of respondents who have been tested for any sexually transmitted disease (STD)

#### South Dakota Trends

There was no statistically significant change from 2009 to 2011.

#### National Trends

This question was not included in the National YRBS.



**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
No

**QUADRATIC CHANGE**  
Not Applicable







## Dietary Behaviors



South Dakota youth are below the national average when it comes to getting five or more servings of fruits and vegetables. In addition, SD youth consistently describe themselves as being “slightly or very overweight” in greater proportions than do their national counterparts.



# Dietary Behaviors

## Questions:

6. How tall are you without your shoes on?
7. How much do you weigh without your shoes on?

## Rationale:

These questions measure self-reported height and weight and perceived body weight. Data on self-reported height and weight is used to calculate body mass index (BMI) and determine the corresponding BMI-for-age percentile for adolescents. BMI-for-age percentile is a proxy measure of weight status, correlates with body fat,<sup>(62)</sup> and is recommended for assessing weight status in youth ages 2-20.<sup>(52)</sup> Although BMI calculated from self-reported height and weight underestimate the prevalence of obesity compared to BMI calculated from measured height and weight,<sup>(83)</sup> self-reported height and weight are useful for tracking BMI trends over time. In addition, obesity prevalence trends from national surveys of adults using self-reported height and weight<sup>(31)</sup> have been consistent with trend data from national surveys using measured height and weight.<sup>(14)</sup> It is critical to continue monitoring height and weight because the prevalence of obesity among adolescents has tripled since 1980.<sup>(73)</sup> Obesity during adolescence is associated with negative psychological and social consequences and health problems such as type 2 diabetes, obstructive sleep apnea, hypertension, dyslipidemia, and metabolic syndrome.<sup>(19)</sup> Further, obese adolescents are more likely to become obese adults.<sup>(28,37)</sup> Nationwide in 2009, based on national YRBS data, 12% of high school students were obese and 16% were overweight.<sup>(15)</sup>

## Results:

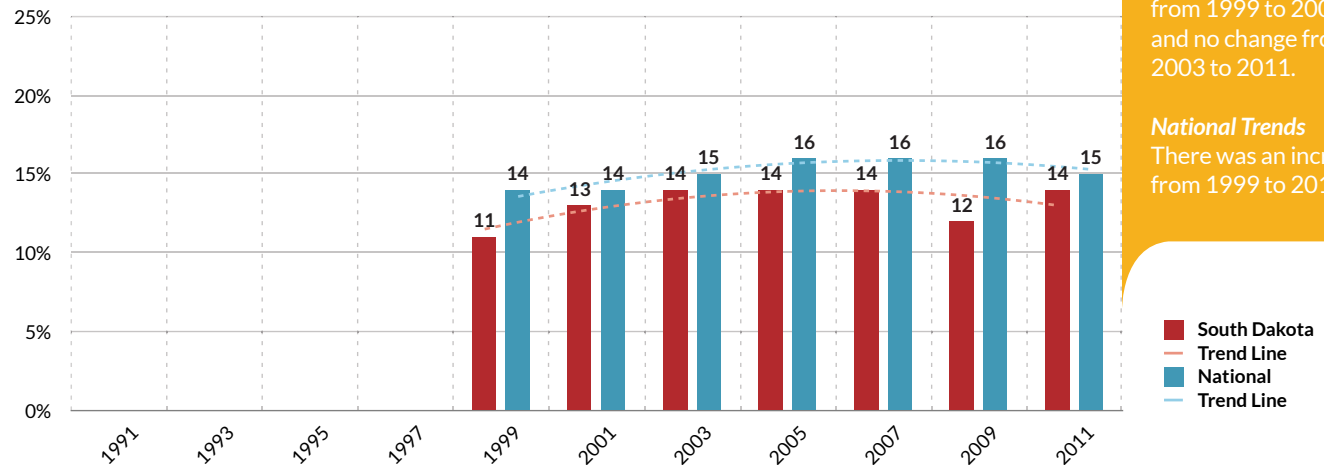
On page 51, the results of Questions 6 and 7 are used to show the percentage of students who are overweight, and the percentage of students who are obese.

## Questions 6 & 7

Percentage of respondents who are overweight

**South Dakota Trends**  
Overall there was an increase from 1999 to 2011. However, there was an increase from 1999 to 2003, and no change from 2003 to 2011.

**National Trends**  
There was an increase from 1999 to 2011.



### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

Yes  
Yes

### QUADRATIC CHANGE

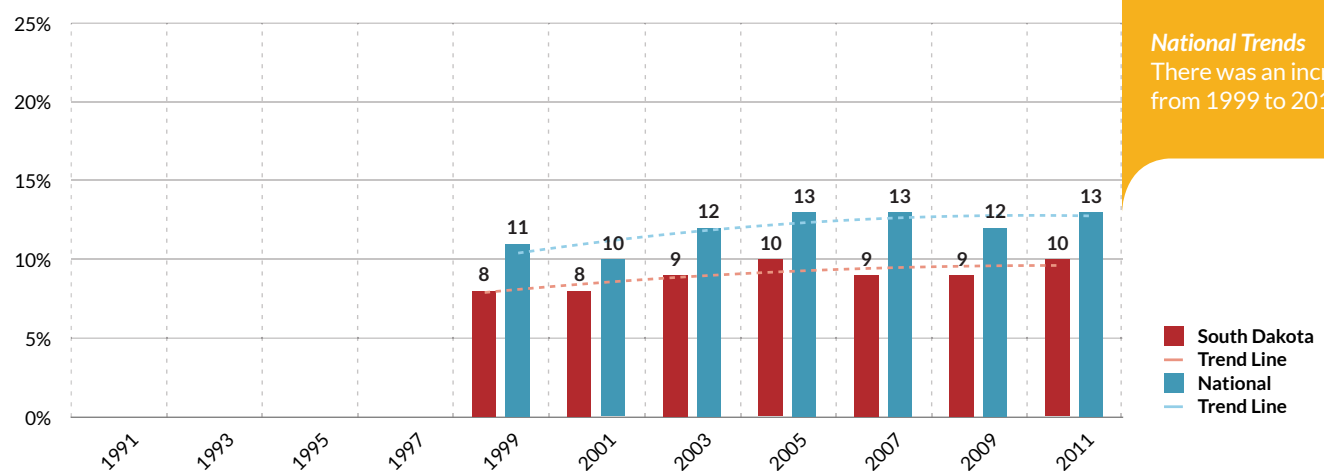
Yes  
No

## Questions 6 & 7

Percentage of respondents who are obese

**South Dakota Trends**  
There was no statistically significant change from 1999 to 2011.

**National Trends**  
There was an increase from 1999 to 2011.



### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

No  
Yes

### QUADRATIC CHANGE

No  
No

# Dietary Behaviors

## Questions:

- 71. How do you describe your weight?
- 72. Which of the following are you trying to do about your weight?
- 73. During the past 30 days, did you vomit or take laxatives to lose weight or to keep from gaining weight?
- 74. During the past 30 days, did you go without eating for 24 hours or more (also called fasting) to lose weight or to keep from gaining weight?
- 75. During the past 30 days, did you take any diet pills, powders, or liquids without a doctor's advice to lose weight or to keep from gaining weight? (Do not include meal replacement products such as Slim Fast.)

## Rationale:

Current recommendations promote healthy eating and physical activity as effective weight control behaviors.<sup>(20,85)</sup> Unhealthy weight control behaviors include fasting, taking diet pills or laxatives, or inducing vomiting. Engaging in unhealthy weight control behaviors may result in physical and psychological health problems such as obesity, eating disorders such as anorexia and bulimia,<sup>(71)</sup> and stunted growth.<sup>(34)</sup> Disordered eating behaviors are correlated with inadequate nutrient intake,<sup>(69)</sup> low self-esteem, high levels of depression, suicidal ideation, high levels of stress, and alcohol and drug use.<sup>(70)</sup> Nationwide in 2009, 44% of high school students were trying to lose weight.<sup>(15)</sup> In 2009, 11% of high school students did not eat for 24 or more hours to lose weight or to keep from gaining weight, 5% of high school students had taken diet pills, powders, or liquids without a doctor's advice, and 4% had vomited or taken laxatives to lose weight or to keep from gaining weight during the 30 days before the survey.<sup>(15)</sup>

## Results:

The results for Questions 71 to 75 are summarized on pages 53 to 55.

## Question 71

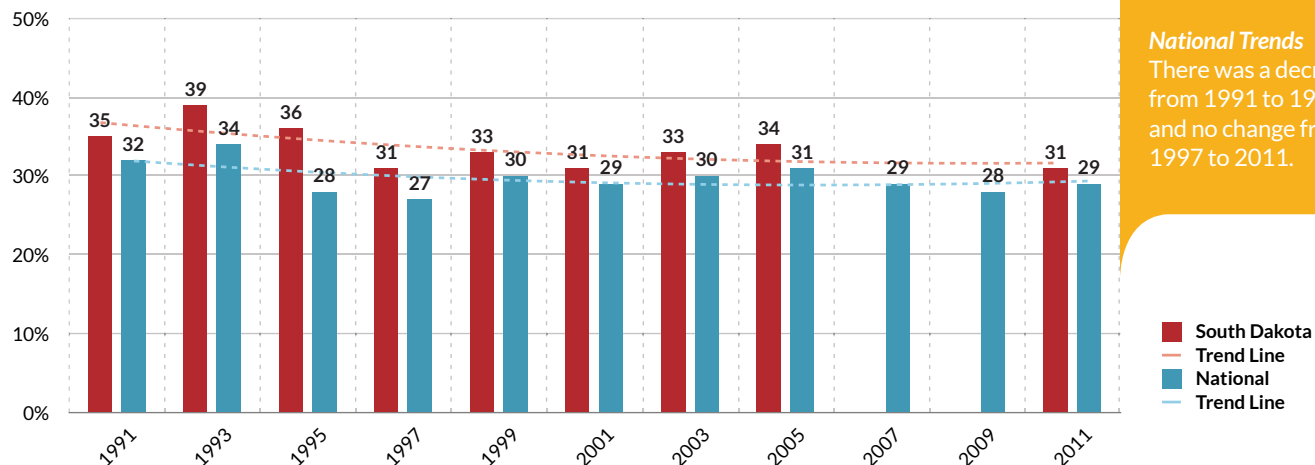
Percentage of respondents who described themselves as slightly or very overweight

### South Dakota Trends

This item was not included in the South Dakota YRBS during 2007 and 2009.

### National Trends

There was a decrease from 1991 to 1997, and no change from 1997 to 2011.



### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

Not Applicable  
No

### QUADRATIC CHANGE

Not Applicable  
Yes

## Question 72

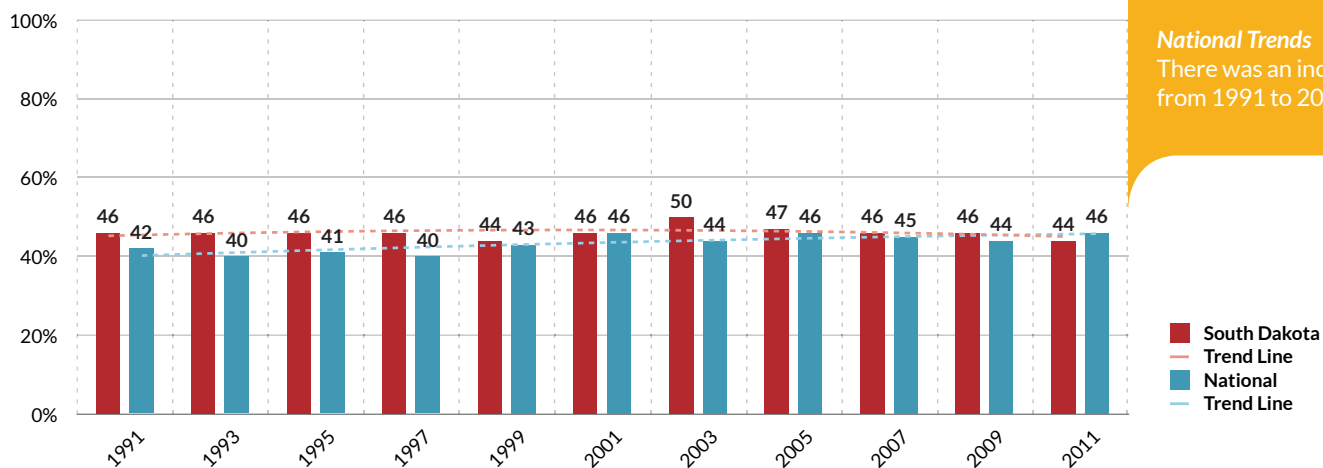
Percentage of respondents who are trying to lose weight

### South Dakota Trends

There was no statistically significant change from 1991 to 2011.

### National Trends

There was an increase from 1991 to 2011.



### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

No  
Yes

### QUADRATIC CHANGE

No  
No

### Question 73

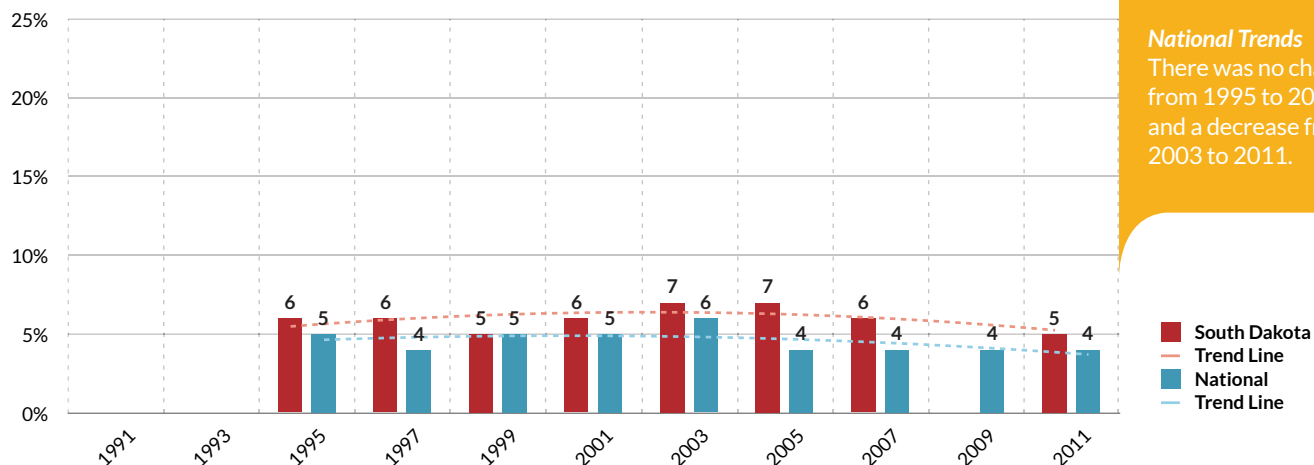
Percentage of respondents who vomited or took laxatives to lose weight or to keep from gaining weight during the past 30 days

#### South Dakota Trends

This item was not included in the South Dakota YRBS during 2009.

#### National Trends

There was no change from 1995 to 2003, and a decrease from 2003 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Not Applicable  
No

#### QUADRATIC CHANGE

Not Applicable  
Yes

### Question 74

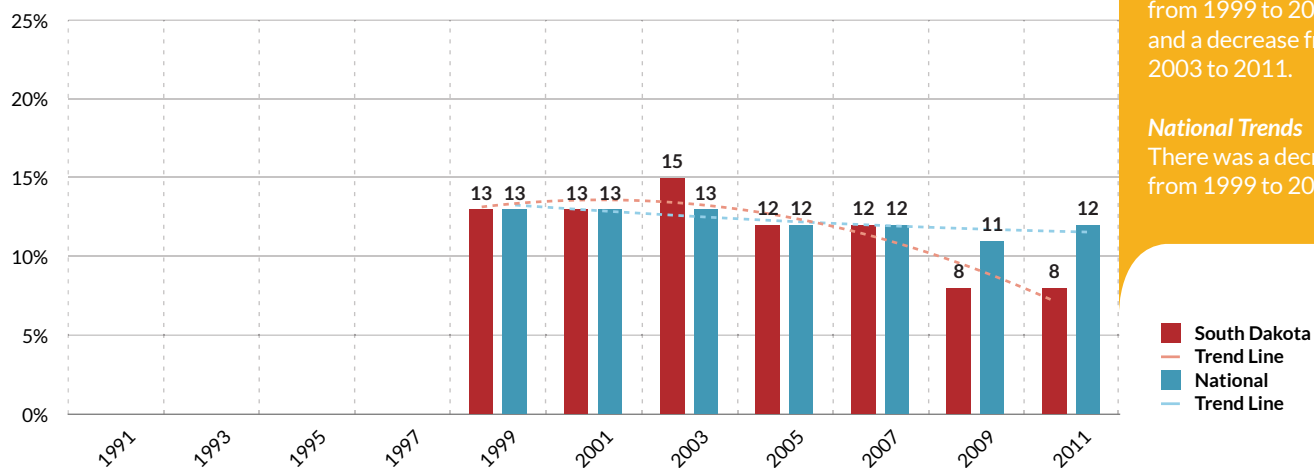
Percentage of respondents who went without eating for 24 hours or more to lose weight or to keep from gaining weight during the past 30 days

#### South Dakota Trends

Overall there was a decrease from 1999 to 2011. However, there was no change from 1999 to 2003, and a decrease from 2003 to 2011.

#### National Trends

There was a decrease from 1999 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

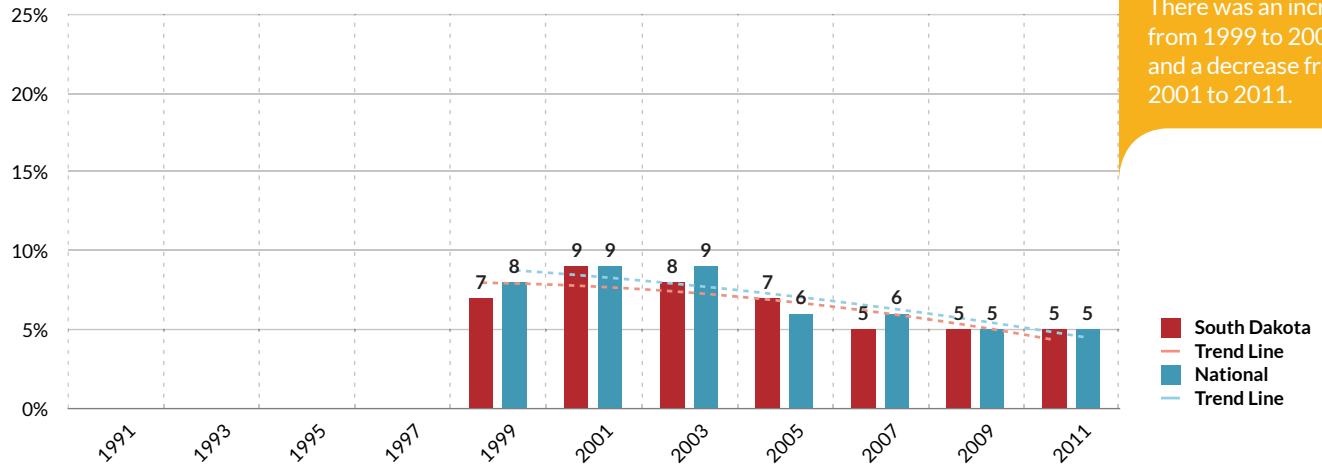
Yes  
Yes

#### QUADRATIC CHANGE

Yes  
No

### Question 75

Percentage of respondents who took diet pills, powders, or liquids without a doctor's advice to lose weight or to keep from gaining weight during the past 30 days



**South Dakota Trends**  
There was a decrease from 1999 to 2011.

**National Trends**  
There was an increase from 1999 to 2001, and a decrease from 2001 to 2011.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

No  
Yes



# Dietary Behaviors

## Questions:

76. During the past 7 days, how many times did you drink 100% fruit juices such as orange juice, apple juice, or grape juice? (Do not count punch, Kool-Aid, sports drinks, or other fruit-flavored drinks.)
77. During the past 7 days, how many times did you eat fruit? (Do not count fruit juice.)
78. During the past 7 days, how many times did you eat green salad?
79. During the past 7 days, how many times did you eat potatoes? (Do not count french fries, fried potatoes, or potato chips.)
80. During the past 7 days, how many times did you eat carrots?
81. During the past 7 days, how many times did you eat other vegetables? (Do not count green salad, potatoes, or carrots.)
82. During the past 7 days, how many times did you drink a can, bottle, or glass of soda or pop, such as Coke, Pepsi, or Sprite? (Do not include diet soda or diet pop.)
85. During the past 7 days, on how many days did you eat breakfast?
86. During the past 30 days, how often did you go hungry because there was not enough food in your home?

## Rationale:

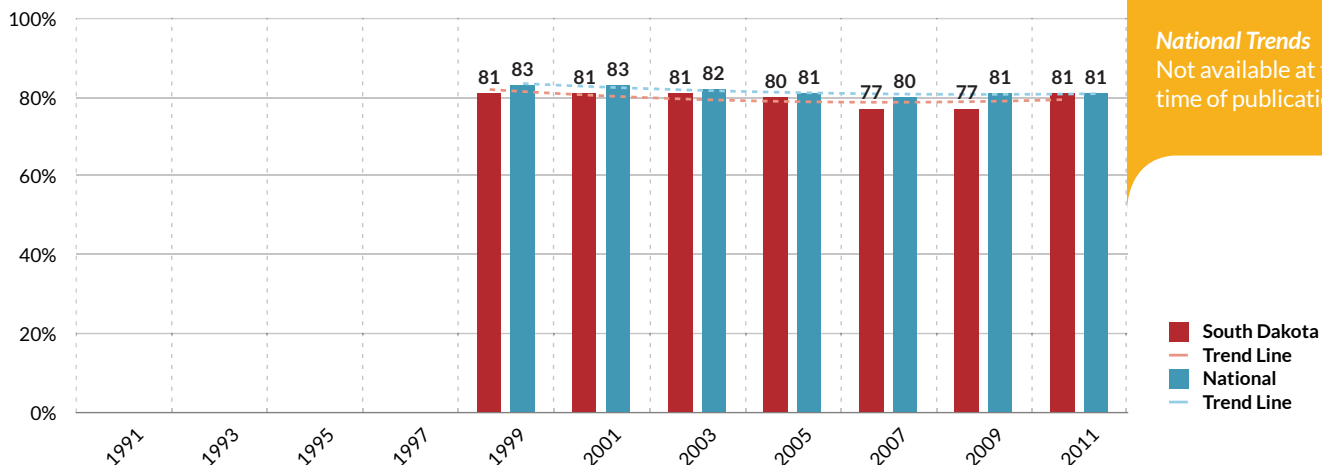
These questions measure dietary behaviors, including consumption of fruits and vegetables, and soda or pop. The fruit and vegetable questions are similar to questions asked of adults on CDC's Behavioral Risk Factor Survey 2009 questionnaire.<sup>(9)</sup> Fruits and vegetables are good sources of complex carbohydrates, vitamins, minerals, and other substances that are important for good health. There is probable evidence to suggest that dietary patterns with higher intakes of fruits and vegetables are associated with a decreased risk for some types of cancer,<sup>(50,53,102)</sup> cardiovascular disease,<sup>(2)</sup> and stroke.<sup>(39)</sup> Although data are limited, an increased intake of fruits and vegetables appears to be associated with a decreased risk of being overweight.<sup>(36,40,79)</sup> In 2009, 22% of high school students nationwide had eaten fruits and vegetables five or more times per day during the 7 days before the survey.<sup>(15)</sup> In recent years, soft drink consumption has significantly increased among children and adolescents. Among persons ages 2-18 years, soft drinks comprised 3% of the total daily calories consumed in 1977-1978 compared to 7% in 1999-2001.<sup>(72)</sup> In 1999-2004, US youth ages 2-19 years, consumed an average of 224 kcal per capita per day from sugar sweetened beverages (11% of their daily energy intake).<sup>(106)</sup> Consumption of sugar sweetened beverages, including soft drinks, appears to be associated with increased risk of being overweight among children<sup>(55,104)</sup> and is associated with a less healthy diet,<sup>(59)</sup> decreased bone density,<sup>(110)</sup> and dental decay.<sup>(95)</sup> Nationwide in 2009, 29% of high school students had drunk a can, bottle, or glass of soda or pop (not counting diet soda or diet pop) at least one time per day during the 7 days before the survey.<sup>(15)</sup>

## Results:

The results for Questions 76 to 82, 85, and 86 are summarized on pages 57 to 61.

### Question 76

Percentage of respondents who drank 100% fruit juice one or more times during the past seven days



**South Dakota Trends**  
There was no statistically significant change from 1999 to 2011.

**National Trends**  
Not available at the time of publication.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

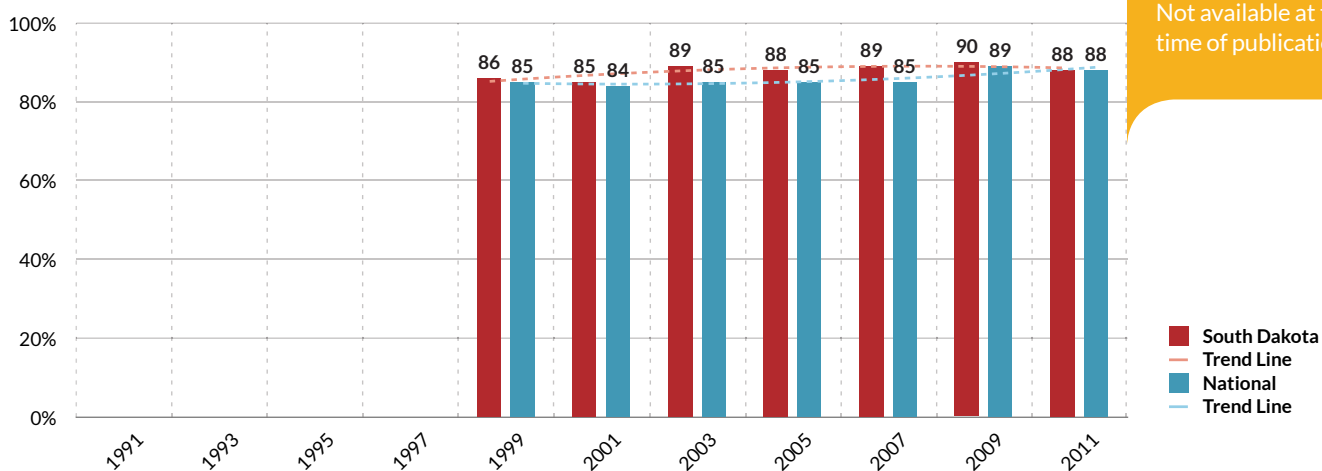
No  
Not Available

#### QUADRATIC CHANGE

No  
Not Available

### Question 77

Percentage of respondents who ate fruit one or more times during the past seven days



**South Dakota Trends**  
There was an increase from 1999 to 2011.

**National Trends**  
Not available at the time of publication.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Not Available

#### QUADRATIC CHANGE

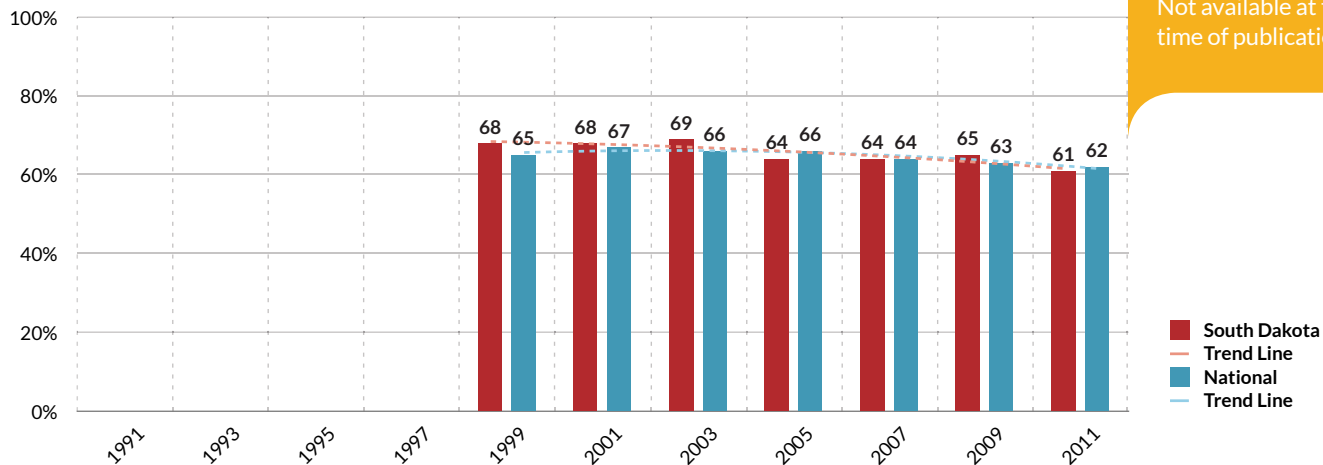
No  
Not Available

### Question 78

Percentage of respondents who ate green salad one or more times during the past seven days

**South Dakota Trends**  
There was a decrease from 1999 to 2011.

**National Trends**  
Not available at the time of publication.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Not Available

#### QUADRATIC CHANGE

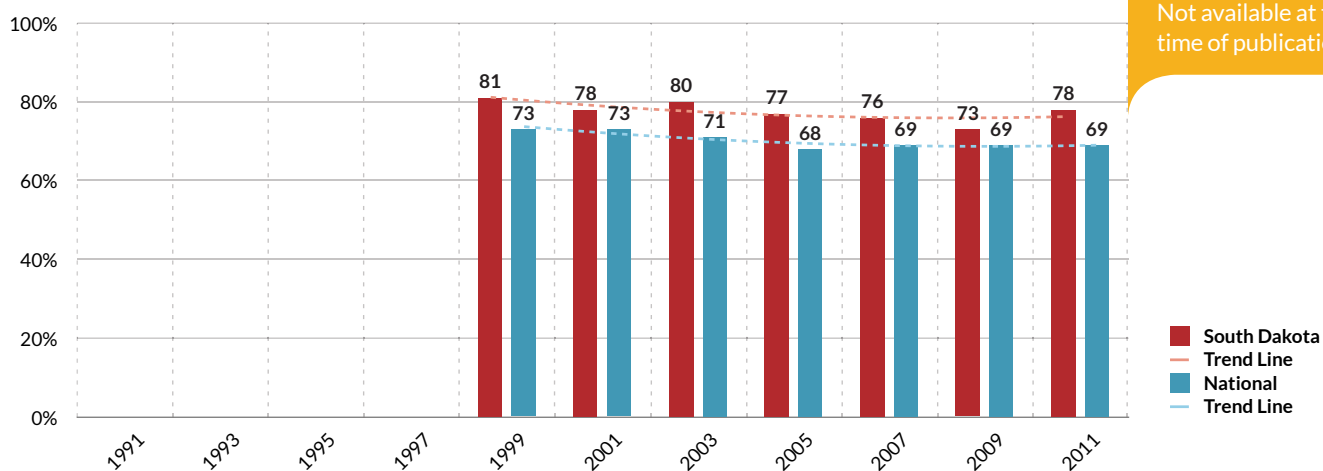
No  
Not Available

### Question 79

Percentage of respondents who ate potatoes one or more times during the past seven days

**South Dakota Trends**  
There was a decrease from 1999 to 2011.

**National Trends**  
Not available at the time of publication.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Not Available

#### QUADRATIC CHANGE

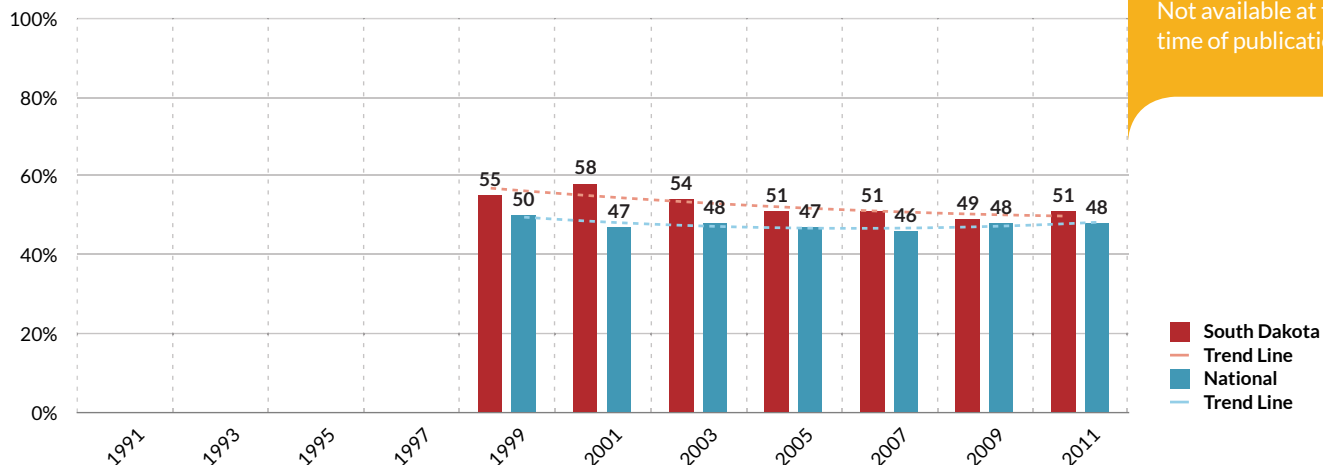
No  
Not Available

### Question 80

Percentage of respondents who ate carrots one or more times during the past seven days

**South Dakota Trends**  
There was a decrease from 1999 to 2011.

**National Trends**  
Not available at the time of publication.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Not Available

#### QUADRATIC CHANGE

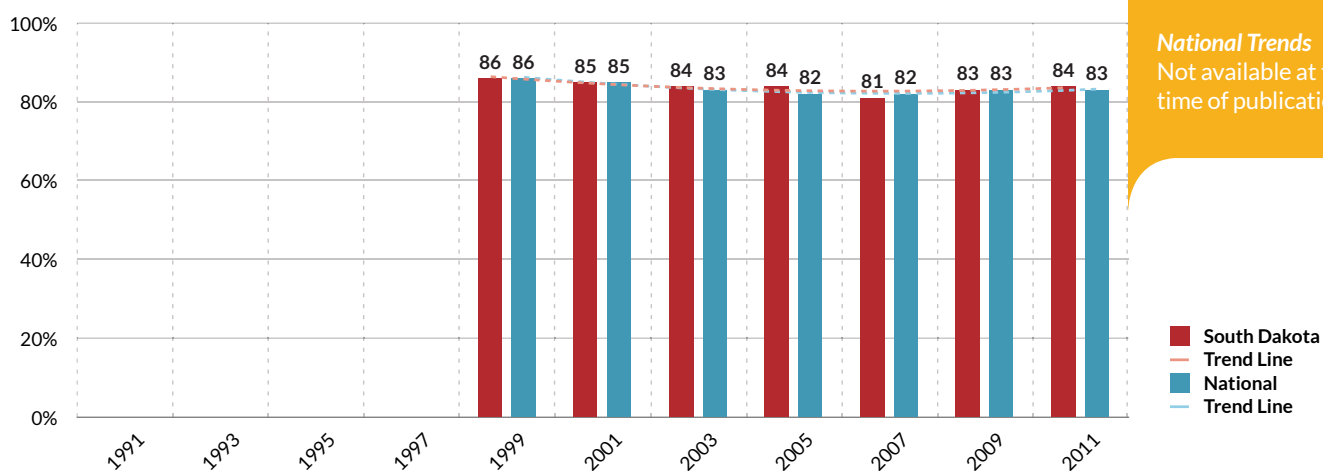
No  
Not Available

### Question 81

Percentage of respondents who ate other vegetables one or more times during the past seven days

**South Dakota Trends**  
There was no statistically significant change from 1999 to 2011.

**National Trends**  
Not available at the time of publication.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
Not Available

#### QUADRATIC CHANGE

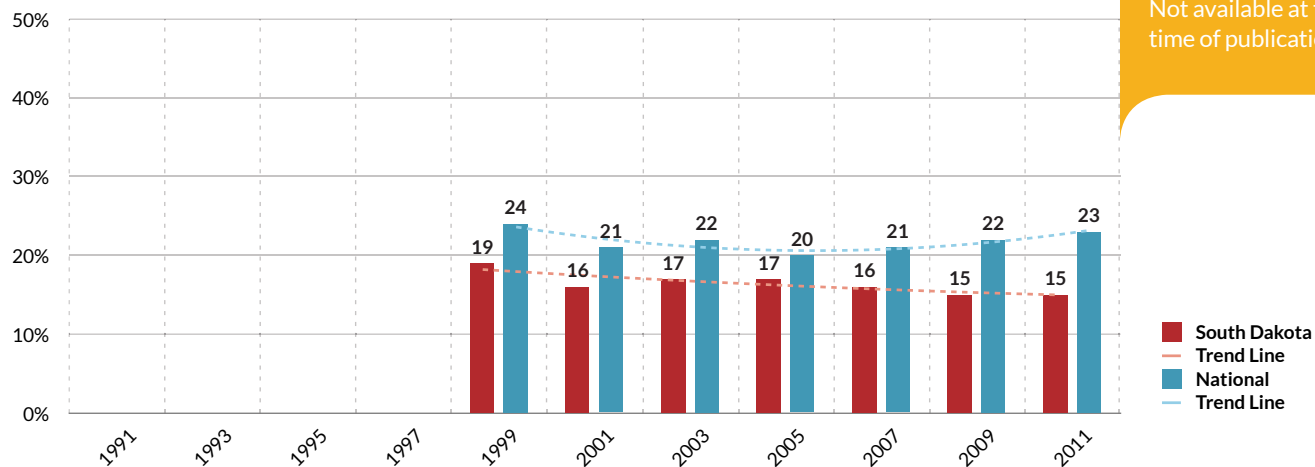
No  
Not Available

### Question 76 to 81

Percentage of respondents who ate five or more servings of fruits and vegetables per day during the past 7 days

**South Dakota Trends**  
There was a decrease from 1999 to 2011.

**National Trends**  
Not available at the time of publication.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
Not Available

#### QUADRATIC CHANGE

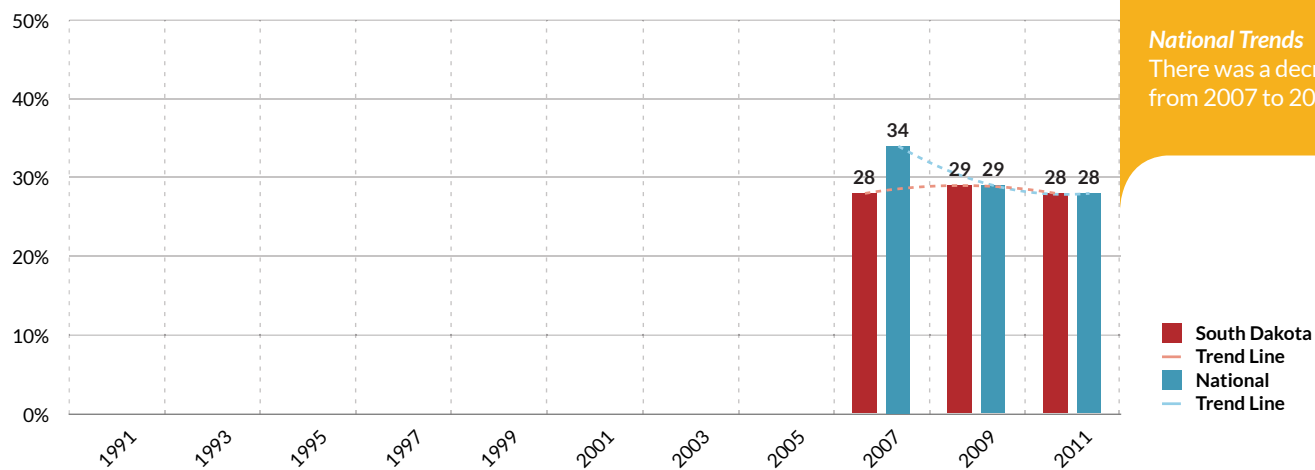
No  
Not Available

### Question 82

Percentage of respondents who drank a can, bottle, or glass of soda or pop one or more times per day during the past seven days

**South Dakota Trends**  
There was no statistically significant change from 2007 to 2011.

**National Trends**  
There was a decrease from 2007 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

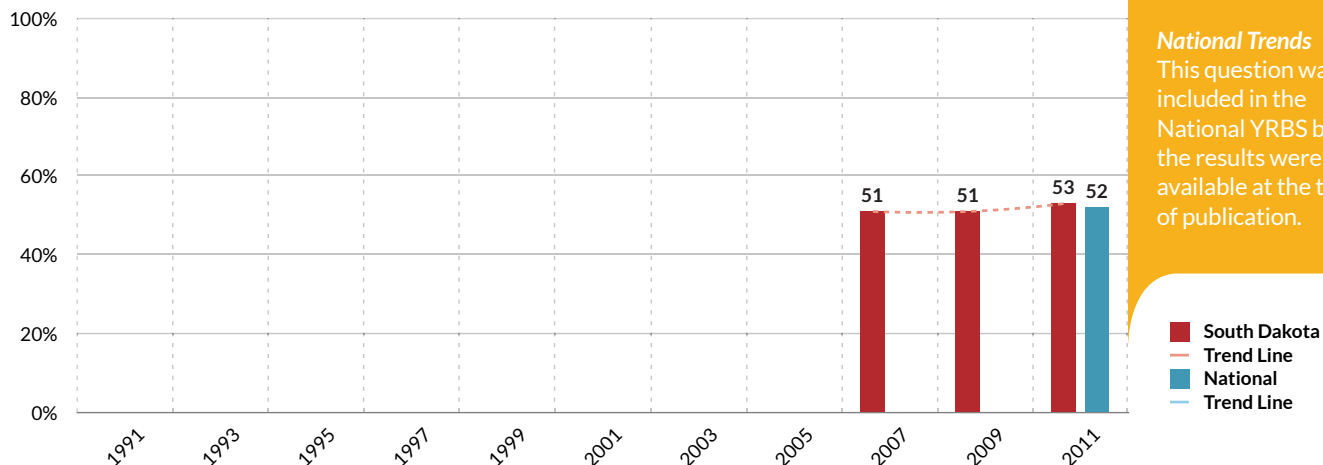
No  
Yes

#### QUADRATIC CHANGE

No  
No

### Question 85

Percentage of respondents who ate breakfast on 5 or more of the past 7 days



**South Dakota Trends**  
There was no statistically significant change from 2007 to 2011.

**National Trends**  
This question was included in the National YRBS but the results were not available at the time of publication.

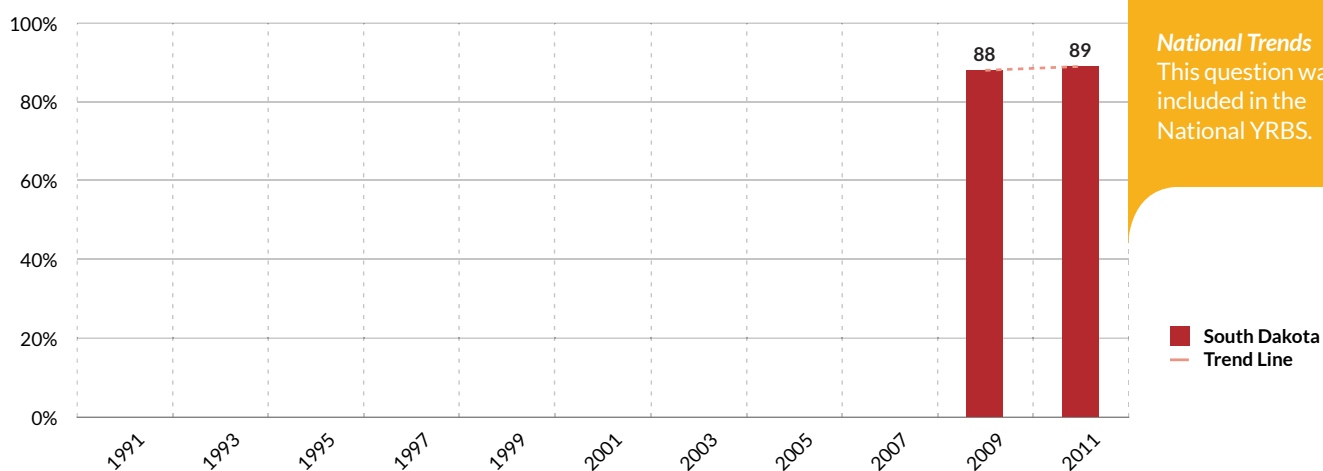
**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
No

**QUADRATIC CHANGE**  
No

### Question 86

Percentage of respondents who never or rarely went hungry during the past 30 days because there was not enough food in the house



**South Dakota Trends**  
There was no statistically significant change from 2009 to 2011.

**National Trends**  
This question was not included in the National YRBS.

**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
No

**QUADRATIC CHANGE**  
Not Applicable







## Physical Activity



While South Dakota youth describe themselves as being about as physically active as their national counterparts, they receive far less physical education in an average school week. In addition, their time spent on computers engaging in non-school related activities has increased significantly.



# Physical Activity

## Questions:

87. During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time that you spend in any kind of physical activity that increases your heart rate and makes you breathe hard some of the time.)
88. On an average school day, how many hours do you watch TV?
89. On an average school day, how many hours do you play video or computer games or use a computer for something that is not school work? (Include activities such as Xbox, Play Station, Nintendo DS, iPod touch, Facebook, and the Internet.)
90. In an average week when you are in school, on how many days do you go to physical education (PE) classes?
91. During an average physical education (PE) class, how many minutes do you spend actually exercising or playing sports?

## Rationale:

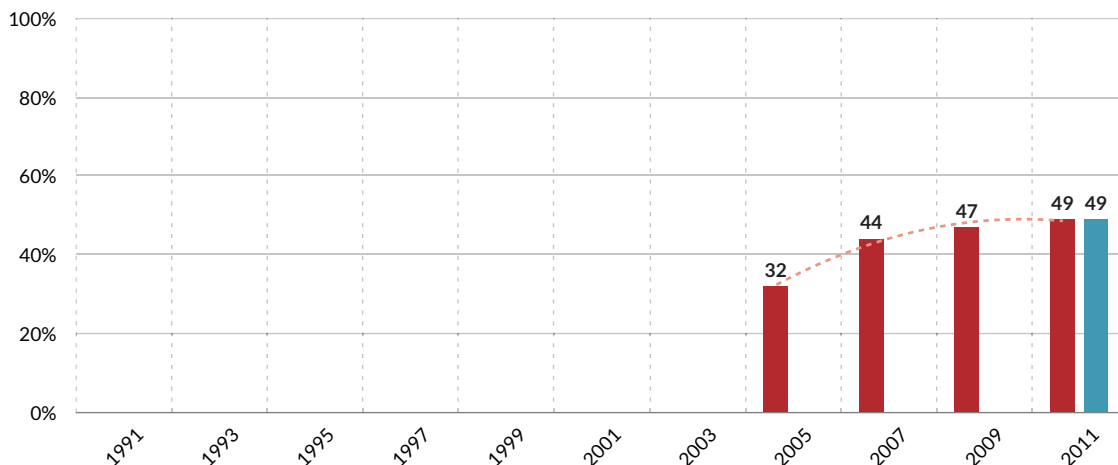
These questions measure participation in physical activity, physical education classes, and time spent watching television (TV) and using a computer or playing video games. Participation in regular physical activity among young people can help build and maintain healthy bones and muscles, maintain body weight and reduce body fat, reduce feelings of depression and anxiety, and promote psychological well-being.<sup>(75,87)</sup> Over time, regular physical activity decreases the risk of high blood pressure, heart disease, diabetes, obesity, some types of cancer, and premature death.<sup>(75)</sup> In 2008, the U.S. Department of Health and Human Services recommended that young people ages 6–17 participate in at least 60 minutes of physical activity daily.<sup>(98)</sup> In 2009, 18% of high school students were physically active doing any kind of physical activity that increased their heart rate and made them breathe hard some of the time for a total of at least 60 minutes per day on each of the 7 days before the survey (i.e., physically active at least 60 minutes on all 7 days).<sup>(15)</sup> School physical education classes can increase adolescent participation in physical activity<sup>(24,60,61,97)</sup> and help high school students develop the knowledge, attitudes, and skills they need to engage in lifelong physical activity.<sup>(22,97)</sup> In 2009, 56% of high school students nationwide went to physical education classes on 1 or more days in an average week when they were in school.<sup>(15)</sup> Watching TV and using a computer are considered sedentary behaviors. Among youth, time spent watching TV, in particular, is associated with childhood and adult obesity<sup>(30,35,49,54,101)</sup> and youth who engage in less than two hours of TV viewing per day tend to be more active.<sup>(54)</sup> Computer usage and video game playing are associated with physical inactivity among adolescents<sup>(35)</sup> and young adults.<sup>(27)</sup> Among high school students nationwide in 2009, 25% of students played video or computer games or used a computer for something that was not school work for 3 or more hours per day on an average school day and 33% watched television 3 or more hours per day on an average school day.<sup>(15)</sup>

## Results:

The results for Questions 87 to 91 are summarized on pages 65 to 67.

### Question 87

Percentage of respondents who were physically active for a total of at least 60 minutes per day, during 5 or more of the past 7 days



#### South Dakota Trends

Overall there was an increase from 2005 to 2011. However, there was an increase from 2005 to 2009, and no change from 2009 to 2011.

#### National Trends

Not available at the time of publication.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

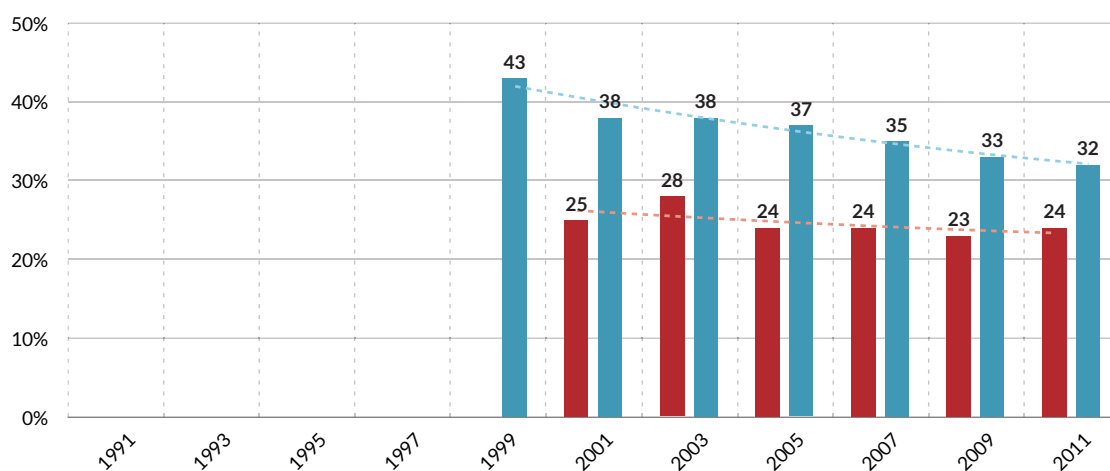
Yes  
Not Available

#### QUADRATIC CHANGE

Yes  
Not Available

### Question 88

Percentage of respondents who during an average school day watched TV for 3 or more hours per day



#### South Dakota Trends

There was no statistically significant change from 2001 to 2011.

#### National Trends

There was a decrease from 1999 to 2011.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
Yes

#### QUADRATIC CHANGE

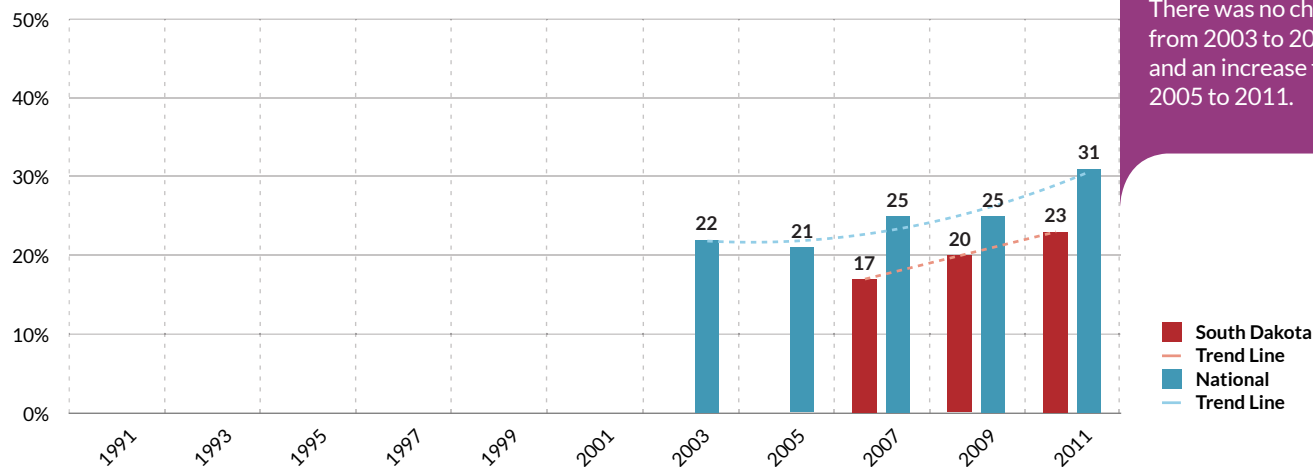
No  
No

### Question 89

Percentage of respondents who played video games or used a computer for something that was not school work for 3 or more hours on an average school day

**South Dakota Trends**  
There was an increase from 2007 to 2011.

**National Trends**  
There was no change from 2003 to 2005, and an increase from 2005 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

Yes  
No

#### QUADRATIC CHANGE

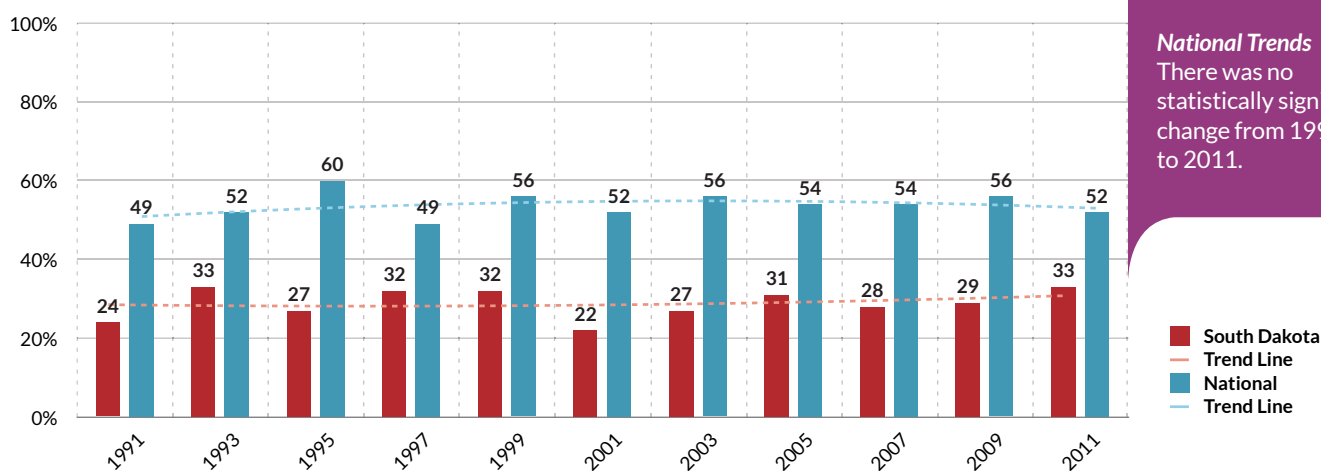
No  
Yes

### Question 90

Percentage of respondents who went to physical education class one or more days in an average school week

**South Dakota Trends**  
There was no statistically significant change from 1991 to 2011.

**National Trends**  
There was no statistically significant change from 1991 to 2011.



#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

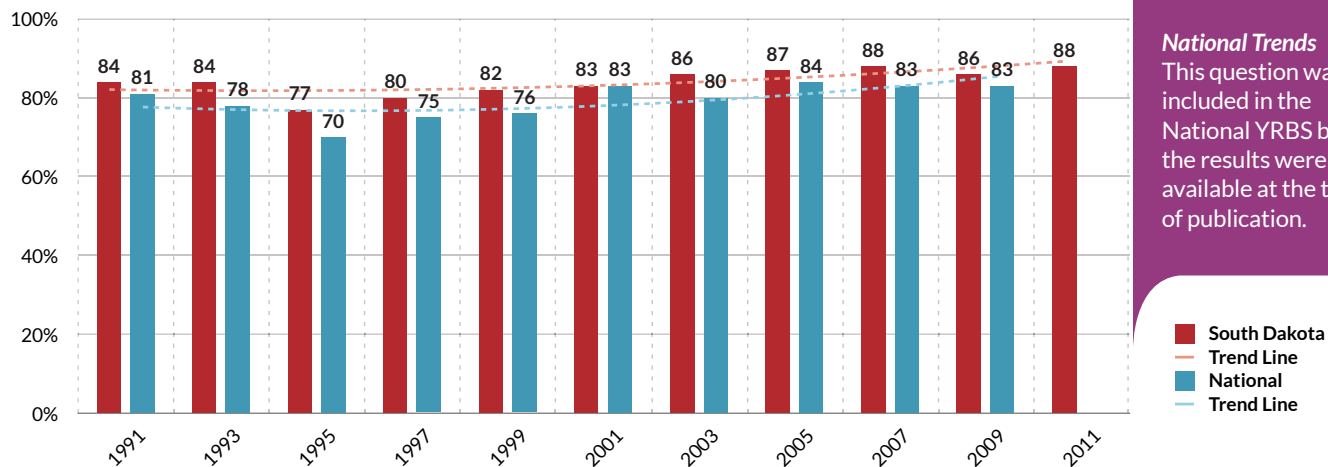
No  
No

#### QUADRATIC CHANGE

No  
No

## Question 91

Of respondents enrolled in physical education class, the percentage who exercised or played sports more than 20 minutes during an average physical education class



### South Dakota Trends

There was a decrease from 1991 to 1995, and an increase from 1995 to 2011.

### National Trends

This question was included in the National YRBS but the results were not available at the time of publication.

#### TREND ANALYSIS

South Dakota  
National

#### LINEAR CHANGE

No  
Not Available

#### QUADRATIC CHANGE

Yes  
Not Available







## *Other Health-Related Topics*





## Other Health-Related Topics

### Questions:

- 92. When was the last time you saw a dentist for a check-up, exam, teeth cleaning, or other dental work?
- 98. During the past 12 months, how many times did you use an indoor tanning device such as a sunlamp, sunbed, or tanning booth? (Do not include getting a spray-on tan.)
- 99. When you are outside for more than one hour on a sunny day, how often do you wear sunscreen with a SPF of 15 or higher?

### Rationale:

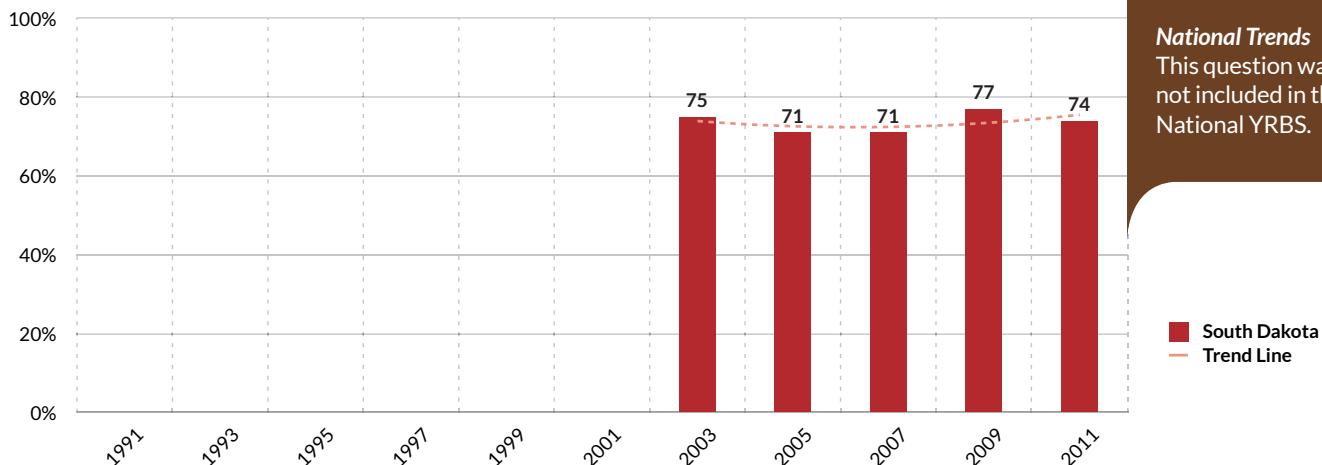
Skin cancer is the most common type of cancer in the United States.<sup>(63)</sup> Because a substantial percentage of lifetime sun exposure occurs before age 20 years<sup>(86,109)</sup> and because ultraviolet (UV) radiation exposure during childhood and adolescence plays an important role in the development of skin cancer,<sup>(32,109)</sup> preventive behaviors can yield the most positive effects, if they are initiated early and established as healthy and consistent patterns throughout life.

### Results:

The results for Questions 92, 98 and 99 are summarized on pages 71 and 72.

## Question 92

Percentage of respondents who saw a dentist during the past 12 months for a checkup, exam, teeth cleaning, or other dental work



### South Dakota Trends

There was no statistically significant change from 2003 to 2011.

### National Trends

This question was not included in the National YRBS.

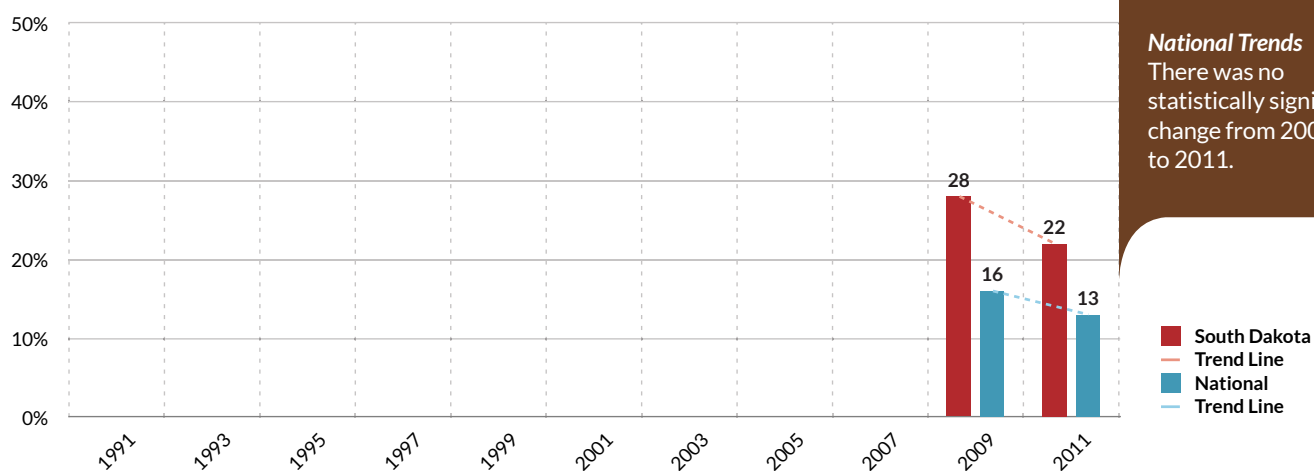
**TREND ANALYSIS**  
South Dakota

**LINEAR CHANGE**  
Yes

**QUADRATIC CHANGE**  
No

## Question 98

Percentage of respondents who during the past 12 months used an indoor tanning device such as a sunlamp, sunbed, or tanning booth



### South Dakota Trends

There was no statistically significant change from 2009 to 2011.

### National Trends

There was no statistically significant change from 2009 to 2011.

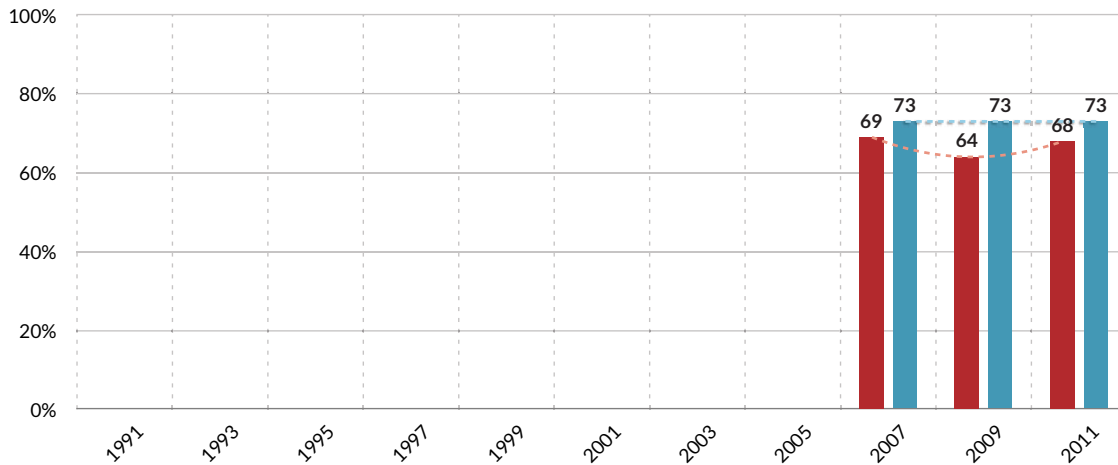
**TREND ANALYSIS**  
South Dakota  
National

**LINEAR CHANGE**  
No  
No

**QUADRATIC CHANGE**  
Not Applicable  
Not Applicable

## Question 99

Percentage of respondents who never or rarely wore sunscreen with an SPF of 15 or higher when they stayed outside for more than one hour on a sunny day



### South Dakota Trends

There was no statistically significant change from 2007 to 2011.

### National Trends

This question was included in the National YRBS but the results were not available at the time of publication.

■ South Dakota  
— Trend Line  
■ National  
— Trend Line

### TREND ANALYSIS

South Dakota  
National

### LINEAR CHANGE

No  
Not Available

### QUADRATIC CHANGE

No  
Not Available

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